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NEW! 2015

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Budget, interrupter, 20gph	£12.52	£15.02
WCP, interrupter, 20gph	£29.00	£34.80
Facet, siver top, 25gph	£47.00	£56.40
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NEW! 2015



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Trolley jack, H/D, low profile, 2 ton	£149.50	£179.40
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Axle stands, light, Pro-race, 3 ton (Pair)	£24.50	£29.50
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NEW! 2015



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NEW! 2015



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NEW! 2015



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3/8" oxygen sensor socket - 8mm	£3.66	£4.39
3/8" oxygen sensor socket - 22mm	£3.66	£4.39
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NEW! 2015

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1500lbs engine stand, foldable	£69.50	£83.40
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Parts washer	£49.50	£59.40



Servicing equipment

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Car creeper, lightweight	£15.90	£19.08
Foot pump - dual cylinder	£14.90	£17.88
Tyre carrier - (4) tyres	£24.92	£29.90

Welcome



Kit car journalist for over 15 years. Built a Sylva Riot and raced a Tiger Avon for several seasons. Has run numerous kit cars as daily drivers over the years.

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There's a sub-plot to the bodykit craze that's currently sweeping the kit car market, which has come to light in the sudden glut of cars that are ready around about now to be tested for full features. The trend? Most of them are original, non-replica designs. OK, some take quite a number of cues from obvious sources, but even those that do – the Veranti-Lamberti V3000 ST featured this month and the Widow SPR1 and Turismo Evolution GT that will appear in these pages very soon – add enough of their own personality into their styling to avoid being cast as replicas. Lookalikes they are not. The K LX5 featured last month and the well-established Bertini GT25 are their own cars entirely. There are others that back-up the argument, but I won't labour the point.

I know that some don't consider bodykits 'true' kit cars. That's not a theory I subscribe to – after all, the kit car scene's roots is in the specials-building era, when rakish bodywork was added to standard donor chassis. But whatever your position on that particular debate, the arrival of several new freshly styled cars you can build yourself has to be a good thing in anyone's book, surely?

I'm always pleasantly surprised by the positive response our coverage of older cars receives. On paper, very old kit cars would seem like a niche within a niche; a specialism too far. Yet the reality seems to be that kits and specials from yesteryear are a popular segment of the market. This month's letters page is a case in point, which has been almost over-run with 1970s cars. The Arkon special that was in Stent's What Were They Thinking? a few months ago has, intriguingly, flushed out

one of the car's two builders – who has given us some more information on the car's background, while Richard Heseltine's story on Davrian has had a response from an enthusiastic Mark 5 owner. Meanwhile, I really want to drive that WB Special (below) that Gary Axon photographed at the Historic Specials Day for last month's issue. Rest assured that, amongst the bodykits and the Cobra replicas and the V8 supercars and the track day cars, we'll always have space for classic plastic in CKC.

Funny how production cars seem to age better than ever, yet are cast aside seemingly ever younger. When I was 10, back in 1992, a Sierra the same age as me seemed like a really old car. These days, a 2005 Mondeo still looks virtually new to me. I know that some of that will be down to the altered perspective between an adult and child, but I more or less stand by that observation.

And despite the fact that a 10-year-old car is probably more serviceable than it has been at any time in the past, people seem to buy new cars more frequently than ever. There's nothing older than a 56-plate in my street (apart from my miles-behind-the-Joneses P-reg Mondeo). Cheap finance makes it easy to cast aside perfectly decent motors, and I reckon we'll see ever newer donor cars in future. Take the Mk3 MX-5, for instance. It's only just out of production and there are already at least two kit cars that use it as a basis. One of them is the Veranti-Lamberti V3000 ST, featured this month.

Adam Wilkins, Editor

[@AdamWilkins_](#)



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Westfield secures new distribution network in Asia

Westfield Sportscars is a consistently forward-looking and proactive kit car company, and its latest announcement has been the securing of a new distribution deal for Asia, with 100 cars to be exported – and that's just an initial order, with the likelihood of more cars to follow.

In 2014, Westfield approached UK Trade and Investment to conduct an Overseas Market Identification Service. The tangible result of that process is a deal with General Dynamics Aero Technology (GDAT) of Shanghai to distribute fully-built cars.

A signing ceremony took place in Shanghai in October in the presence of The Right Honourable Lord Maude of Horsham and John Edwards, Her Majesty's Consul General in Shanghai.

Peter Jiang, President of General Dynamics Aero Technology, said: "GDAT is delighted to be working with Westfield because of their quality sports car range, their advanced materials and technology in the vehicles. We see our aerospace

and sports car ranges as being very complimentary." The fact that the cars are British-built was also seen as a major appeal in the Asian market, and a dedicated area has been set

aside at Westfield's Kingswinford factory to assemble the first 100 cars.

"Westfield is delighted to be working with General Dynamic Aero Tech," said Westfield

MD Julian Turner. "We have lots of similarities and both companies are passionate about the Westfield product. There is genuine technological and advanced manufacturing



MEV offers three projects for sale in as many months

While MEV is no doubt best known for its ever-popular Exocet model, the company also has a reputation for creating many different models.

The rights to three of those are in the process of being offered for sale, with different levels of tooling for each model. The first to be offered was the Sonic7 in



September, which came with the body moulds and the drawings from which to make chassis (but no jig). The Rocket jigs were on eBay as we went to press which, like the Sonic7, is based around Ford Focus components. The rights to the Mazda MX-5 based Mevster will be available at about the time this issue goes to press. The asking price for the rights and the moulds (but again no jigs) is £12,000 including VAT.

That's less than it would

cost to make the tooling, and is a useful step for anyone who wants to become a kit car manufacturer. If all three models go back into production, there's potential for a flurry of new (or perhaps renewed) offerings in the market for lightweight roadsters. Stuart Mills isn't worried about creating new competition for himself: "I am determined to get more products out there," he said. www.mevltd.co.uk



crossover between the aerospace and sports car sectors, and both Westfield and GDAT have a fantastic reputation in their local markets."

Westfield is also forging



relationships with Chinese universities for collaborative R&D projects. You can expect to see more coming from this export deal.

This isn't the only big news

that will come from Westfield in the coming months. There's a lot more going on behind the scenes which we'll be able to tell you about very soon.

www.westfield-sportscars.co.uk

Widow steps up SPR1 production

Just as Widow Sports Cars' SPR1 prototype demonstrator is hitting the road, the company's Wayne Blackwell has announced a deal that will see production of the bodies move to the same Latvian factory that makes kits for the Healy Enigma. As we are going to print, the tooling is on its way to the new facility.

The first basic kit will come back to the UK in mid-November, although the freshly painted demonstrator is already in action.

As well as being cheaper to make in Latvia, the move also makes for easy distribution links to the United States, where Widow has already appointed an agent and reports strong interest

from potential customers.

The US arm of Widow Sports Cars is working on a demonstrator that will be powered by the 5.0-litre Ford

Coyote engine from the latest Mustang. The plan is for it to make its debut at the big SEMA show in November 2016.

www.widowsportscars.co.uk



Ultima Evo - the documentary

A Discovery Channel TV crew recently spent five days at the Ultima factory to make a documentary about the new Evolution kit-form supercar (as featured in our October 2015 issue). It will be shown in 180 countries and 35 languages, but the date for the first UK airing has not yet been announced. We'll let you know when we know - it'll be essential viewing. W: www.ultimasports.co.uk



Sammio still riding

An email arrived from Mike Moore, boss of Replica Rides which makes the Sammio range of Triumph based roadsters. "Although the Sammio Motor Company has been quiet lately it is still very much alive and kicking," he says. "The whole thing is undergoing a complete change, including new ownership, new premises, new models and even new building techniques." Right now, it's a case of watching this space - but there should be news early in 2016. W: www.replicarides.co.uk



Caterham: more mpg

The Caterham Seven 160 proved itself the most frugal car in its class in the MPG Marathon, recording 59.03mpg over the 370-mile public road course. That's an improvement of over 2 per cent on its officially claimed mpg claims. Caterham's most modest model beat competition from the likes of the Lotus Elise (45mpg), Mazda MX-5 (40mpg) and Morgan 4/4 (44mpg). W: www.caterham.co.uk





I am a lightweight!

If we are talking about pounds and stones (I can't do kg when it comes to my own weight), then the headline above isn't completely true, but when it comes to this month's Top 10 feature on page 48 I have to admit to feeling a touch inadequate.

Rarely has the Top 10 feature created such thoughtfully crafted replies from the various CKC scribes involved. Having come up with the suggestion for this month's topic (the cars we'd like to see replicated, but which so far haven't been) I merrily jotted down a few of my favourite automotive things, from Batman's fantastic Tumbler in the more recent movies to a common sense suggestion of a Lamborghini Gallardo replica (there currently being no UK offering which is readily available or actively promoted that we are aware of, despite our recent feature on one).

My knowledge of cars is OK, certainly good enough to bore most of my friends rigid if the conversation unwittingly falls in my direction. But I also know when to keep my head down and, in the presence of CKC contributors Gary Axon and Richard Heseltine (and now it would seem Adam Wilkins as well) I'm always careful not to expose my ignorance of cars such as the 1954 Moretti 750 Grand Sport Berlinetta (suggested by Gary), the Phantom Corsair (suggested by Richard) or the Ferrari 365 GTB/4 Panther Westwinds (nominated by Adam)!

What have I been doing for the last twenty-five years of my journalistic working life? It seems I know nothing!

Ian Stent

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UK Kit Car Guide: out now!

The new 2016 edition of our *UK Kit Car Guide* is available now, either from your high street WHSmith store, the app store or via our website. It will remain in shops over the Christmas period.

Ideal for those who are looking to choose their next (or first) project, it contains details of over 50 cars on the current market – as well as all manner of other useful information on

considerations such as insurance, IVA, registration and more.

And if you're in the midst of a build right now, or even have a completed car on the road, the comprehensive six-page parts directory will always be a handy resource to have close by.

Oh, and if that's not enough you can also claim a free 2016 calendar, too!

www.completekitcar.co.uk



From the ads: Prowler replica



In the issue where we look at the replicas we'd like to see the kit car industry produce (Top 10, page 48), here's one that was available but never caught on to the extent that it deserved.

The advert for this left-hand-drive Plymouth Prowler replica, being sold in Spain, doesn't state its make. Here in the UK, Fiero Factory offered its Ford Granada Mk3 based V2 almost 15 years ago and, while it was a convincing replica, we've never seen the car in any sorts of numbers.

Given the car's rarity as both an original and replica, the £9950 being asked for this tidy looking example on Car and Classic doesn't look unreasonable – especially given a spec list that includes original hood and wheels, leather and metallic paint.

Lexus V8 and folding hard-top: Healy increases sophistication

Healy Designs continues to develop its Mazda MX-5 based Enigma, with two new developments due to appear at the NEC classic car show that takes place just as this issue is going on sale.

Two new cars are en route from the Latvian factory just as this issue goes to press. The first is a brand new demonstrator, which shows for the first time



an Enigma that uses the folding hard-top from its MX-5 Mk3 donor. Finished in Olde English



White, the demo uses the 2.0-litre four-cylinder engine.

The second car has been built for a customer and incorporates the brilliant 4.0-litre Lexus V8 installation. This has now entirely replaced the Rover V8 engine option that Healy had offered before. The Lexus powered car also has the new folding hard-top option.

Sadly, it's just a little too soon for us to have photos of the cars (although we should have them next time after the NEC show). In the meantime, there are photos above of another recently completed car, finished in Quantum Silver with a chocolate brown quilted leather interior. It's an undeniably classy look.

www.healydesigns.co.uk



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- 52mm Oil Pressure Gauge
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Spire records fastest Combe lap of 2015

Tim Gray seems unstoppable in his Spire GT3 – as demonstrated by his 1:01.50 lap of Castle Combe, the fastest time recorded at the Wiltshire circuit this year. You can find the on-board video of the lap on YouTube or, if you're reading the app version of CKC, just click the play button to watch it.

Soon after, a team of Spires took outright victory in the Birkett Six-Hour relay race at a wet Silverstone circuit. Typical Spire preparation ensured that none of the cars suffered any mechanical issues for the whole race – which is so important in a race of that length.

www.spiresportscars.co.uk



Regal Classics: Kent based kit specialist

Sam Harpa is a name regular readers will probably recognise: we've featured his DC Roadster and UVA M6 before, the former winning our Reader's Car of the Year award in 2012. We can say with authority that his car-building skills are very good indeed.

Why is this news? Because,

along with friend Paul Joyce he has established Regal Classics, a firm that can undertake all manner of car-building tasks.

The immaculate showroom is based in Faversham, Kent, and the company can take on everything from small jobs to full builds, as well as bodywork and paintwork. In the workshop right now is

a Realm Jaguar XKSS replica undergoing a rebuild, and a turbo installation is also underway on another car.

"We started planning the business five months ago," says Sam, "when I saw an industrial unit available. I made a few calls to see if there was enough work around and started getting customers straight away. My Diablo replica is good to use as an example of our standard of work, and it's starting to get busy now."

Another service that Regal Classics will offer is car storage, with three different packages available. All packages will see the cars kept in a dust-free and dehumidified environment, with options including annual servicing. You can contact the team on either 01795 533707 or 07909 837667. The website should be live at around the time this issue goes on sale.

www.regalclassics.co.uk



Stop press: TKC Live cancelled

Just after our last issue, which contained a full page preview on Totalkitcar Live, had been printed, we received news from the organisers that the event had been cancelled.

It was due to take place at Brands Hatch on 21 October, soon after this issue goes on sale. If you were planning to go, please take note of the cancellation and don't make the trip!

Mongoose: Will it prove to be a Cobra eater?

In the wild, a mongoose will readily attack a cobra, and on the race tracks of the 1960s a Cheetah would take on Shelby's Cobras. Newly formed Mongoose Manufacturing Company is hoping that will be repeated in the kit car market with its own Cheetah replica. The original Chevrolet-backed race car was short-lived, but it achieved terminal speeds on track that even the Daytona Cobra couldn't achieve.

We've covered the development of MMC's Cheetah replica before, and these latest

photos show how development has progressed so far. The swoopy bodywork is faithful to the original, with its distinctively short overhangs front and rear, and those sills that disappear underneath the car.

MMC will offer the bodywork in two weights – one for road use, and a lightweight option for race use. Beneath that, the company has developed its own spaceframe chassis. The price for the chassis kit will depend on specification, but the bodywork is priced at £3950 (with the glass and headlight covers as extras).

As well as offering its own fabricated chassis, MMC will also offer a Mongoose kit to fit onto an unmodified TVR chassis. Any model with a 90in wheelbase (Chimaera, Griffith, S-series) is suitable and, as well as simplifying the build itself, it also means that the car will be exempt from the IVA test, which will help to reduce the cost of the project.

A website is currently under construction but, in the meantime, you can contact MMC's John Smith via the following email address: info@mongoosemanufacturing.com



100 issues ago

Rally replicas featured on our cover. A Subaru Impreza based Ford RS200 replica and a Lancia Monte Carlo based 037 replica lined up against the establishment: the Hawk HF3000. Only the latter remains available today. We also had a page on a Viper V10 engined Luego Viento (which, sadly, was never completed) and two readers' Gardner Douglas T70 replicas.



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Tiger pride

Tiger Sportscars always organises a factory open day each year and it's invariably well supported by existing owners and, of course, those looking to potentially place an order.

Such is the diversity of models that Tiger offers, that there's always something interesting to see inside the workshop, including work on classic cars as well as kits. So this year there was virtually every example of Tiger on show including more alternative variants such as the ERA 30.

This year the weather was dry, which meant that outside the unit were also lots of privately built examples to look around and gain inspiration from. Open days are a great way for existing customers to engage with the manufacturer and, hopefully, act as ambassadors for the company when it comes to talking to potential customers who've also turned up.

Our thanks to Dominic Eaves for these pictures from the day.
www.tigerownersclub.co.uk



Getting the hump

Another interesting little project is currently going through the workshops at Westgate Composites. MD Andy Westgate sent through some information on his latest challenge... locating the bodyshell of an Autotune Gemini onto its chassis and then creating a one-off bonnet bulge to cover the air filter on top of the bike engine located under the bonnet. Looks like a neat job.
www.westgatecomposites.com



More cake celebrations

Paul Fennings is a member of the Quantum Owners' Club and sent in these two pictures of Quantum cakes. The red cake was created to celebrate the club's 25th anniversary earlier this year, while the white one reminds club insurance liaison Andy Heaton exactly how old he is!

Andy has owned several Quantums over the years, so inevitably his birthday cake could only be one shape.
www.quantumowners.co.uk





Wedding vows

We love these pictures sent in by Westfield owner, Colin Atwell. As a regular at the CKC/Omex track days, we know Colin loves his Westfield, but in September he also showed the world that he also loves Rachel, by getting married.

However, bringing the Westie along to the big day and then suggesting Rachel fully indulge in the kit car experience may have been testing his beloved just too much!

If she's not already been put off, we look forward to seeing Rachel at the next CKC/Omex track day in 2016 where we hope she'll be more



appropriately attired to enjoy the car's true ability.

Congratulations from all at CKC.



GBS news...

There's never a quiet moment at Great British Sports Cars, and sales abroad are increasingly popular. Ben Shepherd has recently completed the assembly of his Zero out in Spain, and the car came back to the factory for pre-IVA check and subsequent test. Ben then plans to drive it back home.



Back in Blighty, Keith and Wendy Baker are in the midst of their own Zero build, using a Mazda MX-5 donor car they've owned from new! With the bodywork beginning to show its age, but with excellent mechanical components that they were completely confident with, it was the perfect donor. And it was also another way of continuing the ownership of the Mazda, albeit in a rather different incarnation! Shown below are Keith and Wendy collecting the kit earlier this year.



Marlins meet the classics

Members of the Marlin Owners' Club attended the Tatton Park Classic Car show recently and won a highly commended first place for their stand on the Sunday. In view of the fact that this was a kit car display in a classic car show, the

club was obviously delighted.

Subsequent to the show the organiser contacted the club, commenting that although the cars are classed as kit cars, many of them are based on classic mechanical parts and are designed/styled to a traditional

sporting style. As such, they are very well suited to the classic car scene and would always be welcome at Tatton Park.

Over a dozen Marlins had been in attendance, with examples of Roadster, Berlinetta and Cabrio on display, plus an ultra rare Marlin Makaira. Marlin owner Geoff Grumble commented, "It was very interesting to see all of the different ideas on the cars and

personal touches on the details, making each and every car almost a one-off. There did not seem to be two the same! Here's to another great turn-out in 2016."

www.marlinownersclub.com





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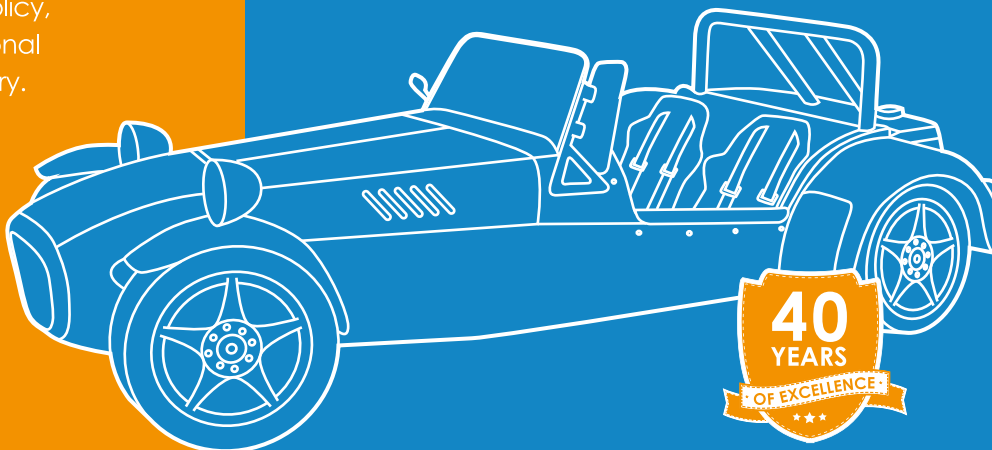
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2015/16 Events

There's plenty to entertain you and your kit car. Here's our diary of the events over the coming 12 months that have caught our eye. If you know more, tell us and we'll get the word out.



NOVEMBER

Saturday 21st
totalkitcar LIVE
THIS EVENT HAS BEEN CANCELLED

2016 Events

JANUARY

14th-17th
Performance Car Show
NEC, Birmingham
Satnav: B40 1NT
T: 0844 581 1419
W: www.performancecarshow.com
Part of Autosport International, the Performance Car Show is looking like must see viewing for the kit car enthusiast. Come and find us as we promote the 2016 Track Day Directory.

MARCH

19th/20th
Goodwood 74th Members Meeting
Goodwood Race Circuit,
West Sussex
Satnav: PO18 0PX
T: 01243 755055
W: www.goodwood.co.uk
Previously members-only event now open to the public.

MAY

1st/2nd
The National Kit Car Motor Show
Stoneleigh Park, Warwickshire
Grosvenor Shows
Satnav: CV8 2LZ
T: 01406 372600
W: www.grosvenorshows.co.uk
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Saturday 14th
CKC/Omex Track Day
Llandow Circuit.
Satnav: CF71 7PB
T: 01823 617908
E: ian@performancepublishing.co.uk
W: www.completekitcar.co.uk
Join us at Llandow Circuit for a brilliant track day, exclusively for kit cars. Beginners welcome at this very friendly day. Contact us to register your interest.

JUNE

Sunday 5th
London to Brighton Kit and Sports Car Run
Classic Motor Events
T: 01527 831726

W: www.classicmotorevents.co.uk
Join us on this great event.

16th-20th
Le Mans Tour
Classic Car Tours
T: 01355 260422
W: www.classic-car-tours.com
From £149 per person.

18th/19th
Le Mans 24-Hour
France
An annual pilgrimage for kit car owners.

23rd-26th
Goodwood Festival of Speed
Goodwood House, West Sussex.
Satnav: PO18 0PX
T: 01243 755055
W: www.goodwood.co.uk/fos
An essential event for the petrolhead – lots of iconic cars to see.

JULY

7th-11th
Le Mans Classic Tour
Classic Car Tours
T: 01355 260422
W: www.classic-car-tours.com
From £179 per person.

8th-10th
Le Mans Classic
France

10th-12th
Cholmondeley Pageant Of Power
Malpas, Cheshire
Satnav: SY14 8AH
T: 01829 772432
W: www.cpop.co.uk
An event which is gaining in popularity.

SEPTEMBER

9th-11th
Goodwood Revival
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West Sussex
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The New H56 - a tribute to the classic Lotus 6

Richard Heseltine

"There is something vaguely heroic about the Mini Marcos' unwillingness to play dead. September 2015 marked the fiftieth anniversary of the model's first public appearance... and it has survived the vagaries of fashion by never being *in* fashion. The kit car industry has spawned many great products and the Mini Marcos – for all its faults – deserves its legendary status"



Respected classic car journalist Richard Heseltine has been a major player at *Classic & Sports Car* and *Motor Sport* magazine before becoming a sought after freelance journalist. But he also happens to be one of the most knowledgeable kit car buffs you'll ever come across.

There is something vaguely heroic about the Mini Marcos' unwillingness to play dead. September 2015 marked the fiftieth anniversary of the model's first public appearance, when Geoff Mabbs raced a car entered by Janspeed Engineering at Castle Combe. The sometime BMC works driver steered the car to victory first time out, and in appalling conditions. It wouldn't be the first time this ugly duckling would punch above its weight.

Officially launched at the January 1966 Racing Car Show, and still available via Marcos Heritage, it has survived the vagaries of fashion by never being *in* fashion. Derived from the one-off DART (Dizzy Addicott Racing Team), and comprising a glassfibre monocoque, there was nothing particularly sophisticated about this misshapen device. Company principal Jem March claimed that you could build one in around 15 to 20 hours which was a little optimistic. Nor was it strictly symmetrical. Nonetheless, with a launch price of just £199, it proved an immediate hit and subsequent developments such as a hatchback aided practicality.

The Mini Marcos was – and remains – far more than the sum of its proprietary parts as evinced by its competition pedigree. One privateer car was the first British car to cross the line in the 1966 Le Mans 24 Hour race. Closer to home, Steve Roberts claimed four endurance records with his multiple ModSports championship winner. Even now, it's not unusual to see them mixing it with larger rivals in historics, often coming out on top.

But we shouldn't forget its half-sister. Closely related to

the Mini Marcos by dint of shared DART ancestry, the first Mini Jem was completed in the summer of '66 but the model was officially introduced in January of the following year with a launch price that undercut the MM by £10. The car's instigator, Jeremy Delmar-Morgan, maintained the project until selling it on to Robin Stratham in 1967, Stratham initiating what passed for a development programme. The revised Mk2 went on stream at the '69 Racing Car Show, changes amounting to a raked-back windscreen, a raised roofline and no exterior door handles.

Though initially a strong seller, the Jem came a cropper after Stratham spent a fortune developing a VW-based sister model dubbed Futura. His Fellpoint Ltd went into liquidation in July 1971 although the Jem lived on to '74 under different owners. Oh, and one of the first customers was a young Noel Edmonds... And then there was the Kingfisher Sprint which was a 1980s Jem revival in all but name. There were the numerous overseas' spin-offs, rip-offs and variations on the theme, too.

Please forgive this column becoming another history lesson. It's just that so many marque anniversaries are blown out of all proportion in the mainstream motoring press, and in some instances I have been complicit. The thing is, the kit car industry has spawned many great products and the Mini Marcos – for all its faults – deserves its legendary status. Nevertheless, its milestone anniversary has gone widely unreported. So let us be upstanding and raise a glass to a time-defying kit car. The Mini Marcos was the little car that could. And frequently did. ■

NEXT MONTH



Gary Axon

In 1982 Gary Axon penned his first published words for *Alternative Cars* magazine, precipitating what has become a lifelong obsession with the more obscure elements within the automotive world. Today he's a leading light in helping to assemble the shortlist of invited cars at leading motoring events, such as the Goodwood Festival of Speed, Revival and the Concours of Elegance.



Modern CLASSIC

Veranti-Lamberti's new V3000 ST bodykit mixes modern underpinnings with retro styling. We find out if it's a mix that works.

Words and pictures: Ian Stent





When the Ford Sierra began to get thin on the ground there was a moment when the kit industry wondered where the next mainstream donor car would come from... if indeed there would be one at all! Thankfully for those looking for a front engine/rear drive configuration, prices of the Mazda MX-5 started to tumble and the concept of using a previously desirable mainstream roadster as a donor for a kit car became a reality. And the MX-5 has been the gift that keeps on giving... first the Mk1, then the Mk2 and now the Mk3 version of the pretty little sports car have fallen within our grasp. The latter only went out of production in 2015 after a ten-year stint, and huge volume sales guarantee a ready supply of potential donor cars for many years to come.

Around £3500 should bag you a reasonable early example of a Mk3. It may be a lot to spend on a donor for a conventional body/chassis kit (although the unwanted parts you can sell will probably offset much of the cost), but as the foundation for a bodykit it makes a lot of sense. In the same way we are aware of upcoming body conversions using Nissan 350Z and Porsche Boxster foundations (along with existing products based on BMW Z3 and Mercedes SL) the use of previously unthinkable production sports cars could be ushering in an exciting new genre of bodykit.

When Neil Sysum of Veranti-Lamberti was considering his next bodykit project, he went about his search in perhaps the opposite way to most... he started with a donor car and then looked for a design he could replicate over the top of it. The MX-5 was an obvious starting point, and he jumped straight in with the Mk3. His reasoning makes sense. With the very youngest Mk2 car coming off the production line in 2005, anyone building one of his bodykits would, at best, be basing their vehicle on a ten-year old car. Own it for five or ten more years and the car underneath the shiny new clothes is getting properly long in the tooth.



1.8-litre delivers enthusiastic 126bhp. Mini headlights work well in new home... as do aftermarket units out back.



Available from 2005, the Mk3 seemed to make perfect sense, particularly now that prices had finally begun to fall into the realms of sense when it came to the rebodging game. The only question was what to put over the top of it?

It was then that Neil came across Joe Lamberti, an established figure within the kit car scene but someone who has always maintained a low profile. Joe had already taken moulds from an original Healey and he was happy for Neil to take the front and rear panels to see if the Healey shape could be massaged to fit over an MX-5.

While the theory sounded simple enough, the reality has been that there isn't a single panel that remains unmodified from the original Lamberti panels. Everything has changed, in many areas with Neil starting from scratch. As an example, the rear bumper owes its origins to a cut down Porsche Carrera bumper. Even now, the vinyl wrapped bodywork is a working prototype, with final production moulds yet to be taken from them. And Neil still has plans for a number of panel improvements and additions. As an example, the two-tone sides may hint at the panel line found on an original Healey, but the V3000 ST currently has flat sides... the doors are completely original Mazda items. So one idea is to introduce the panel indent into the fibreglass front and rear panels and add the simple addition of an upper half

LOOK

Mk3 MX-5 interior offers a good leap up in quality of finish compared to earlier models.



panel which can be bonded onto the top of the Mazda door, thus maintaining the indent along the whole side of the car. That sounds a neat trick.

As you can see from the various graphics all over this car, it has already been on an adventure. Neil entered himself into the Great European Rally earlier this year and such was the rush to complete the car in time, that the vinyl wrap was only applied two days before he was due to leave. Having never driven the completed conversion before that, he then set off on what would end up being a 4500-mile round trip over the next 10 days. Quite a test. In aid of Cancer Research UK and the Stroke Association, he reckons he'll have raised almost £2000 when all the promises are collected.

In reality, the haste with which the prototype panels were finished and then vinyl wrapped, means the fit and finish on this car isn't up to the standard a customer would hope and reasonably expect to achieve. But with the completed production panels, and a sensible amount of time and effort put into shutlines and surface finish, there's little doubt the end result could look terrific.

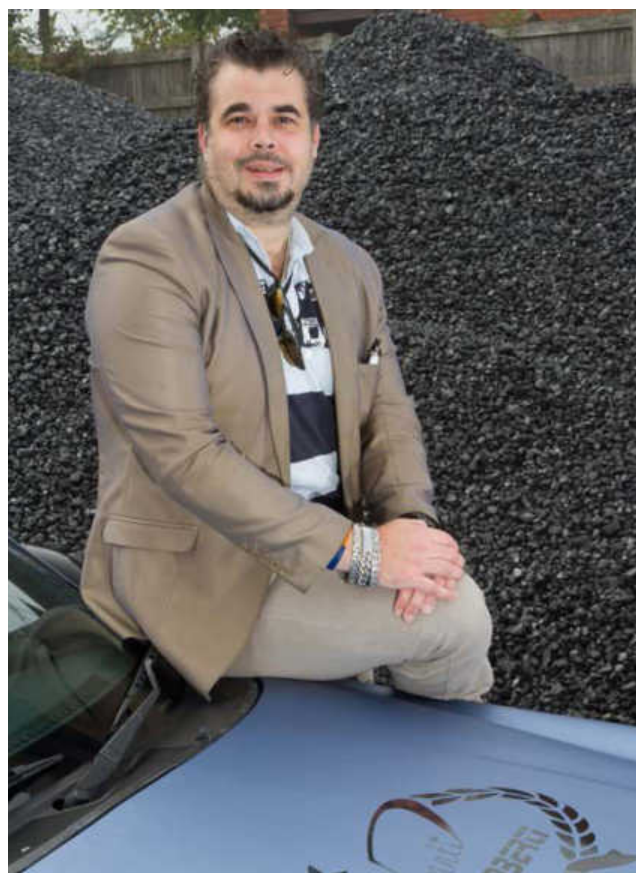
We suspect that painted in a single

colour the Healey origins of the updated styling will become increasingly distant, and the V3000 ST will take on a look all of its own.

So what's involved in the conversion? As you might expect, the front wings, bumper and bonnet are unbolted and replaced with a single front clam and new bonnet (of which two styles will be available – rally and classic). At the back, the bumper and bootlid are removed and another single piece panel is bolted and bonded in place, this time over the rear wings. Both bonnet and bootlid utilise the original hinges. As already mentioned, the MX-5 doors remain in their entirety. Finishing brightwork on the prototype includes the Healey style grille (a fibreglass surround with metal bars) and Healey replacement side chrome strakes. Headlights are, as you'll have guessed, of modern Mini origin, while the rear light units are readily available aftermarket units.

The bodykit will cost £3995 (no VAT to pay), so add in a sensible donor for £3500, £2000 on paint, plus some extra for lights and other sundries and it seems perfectly feasible to be complete and back on the road (no IVA test remember) for sub £10k.

Unlike some other bodykit



Neil Sysum decided to use the Mk3 MX-5 before deciding on the exterior design.



Tech spec

Engine as tested: 1.8-litre Mazda MX-5 Mk3. 126bhp

Engine options: Donor's 1.8 or 2.0-litre (158bhp) engines. Forced induction a popular upgrade.

Chassis: Mazda monocoque.

Bodywork: Fibreglass replacement front and rear panels, standard MX-5 doors.

Suspension: Standard Mazda MX-5 suspension. 1in wheel spacers at the back.

Steering: Mazda rack and column.

Brakes: Discs all-round.

Kit price: £3995. No VAT.

Contact: Veranti-Lamberti, Worcester, Worcestershire.

T: 01905 782007.

E: sales@veranti-lamberti.co.uk

W: www.veranti-lamberti.co.uk



manufacturers, Veranti-Lamberti has no plans to offer an interior upgrade. Using the more modern Mk3 donor means the Mazda cockpit already works beautifully and looks great... Neil sees little point in trying to conceal it and it goes against his company's ethos of affordable body conversions.

All that's left to do is jump into the driver's seat for a quick blast. Suspension on the V3000 remains stock MX-5 with the exception of 1in wheel spacers on the rear... modest by the standards of some kits. So the expectation is that the driving experience will be little different than that of the Mazda... and why not! Typically, the Mk3 feels perfect in a way that the MX-5 has rightly become known. The driving position is terrific and the

seat comfortable. All the controls are spot on and the gearshift through the 5-speeder in this car is nothing short of sublime... does Mazda have bragging rights to the best gearbox on the market? Almost certainly.

Under the bonnet is the Mk3's smaller 1.8-litre engine with all of 126bhp at its disposal, but the performance is always entertaining. The 2.0-litre will offer 156bhp and there are now endless performance upgrades, from forced induction to complete engine transplants.

Ride and handling is also utterly assured and the V3000 ST can quickly be exploited to its full potential, at every opportunity. It is, of course, the secret to the MX-5's success... it handles brilliantly and can make the absolute

most of the modest performance available under the bonnet... you can feel a hero at legal speeds.

And when rain stops play? Simply reach behind you and flick up the soft-top, clip it into place and carry on! There's a lot to be said for production car sophistication and usability.

Veranti-Lamberti's use of the more modern MX-5 makes complete sense, and it's update of the Healey styling sits pretty well over the base car. If you fancy a relatively easy project that's quicker to build than a conventional body/chassis kit, which will retain a comfortable interior and production car reliability... and yet which looks different to most other cars you see, then the Veranti-Lamberti V3000 ST deserves a second look. ■





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Speed beside the seaside



Thunder Road Cars' Cheng Lim lines up.



Nice to see a Vöhl 05 in action.



The Brighton Speed Trials, the UK's longest running motorsport event, was almost banned by the city's incumbent Green Party leaders not long ago, but a huge campaign and massive public support for the event ensured it has continued.

The famous, and crumbling, Madeira Drive plays host to the event, with the eastern end being the strip along which competing cars race, one at a time, as fast as they can. At the other end, closer to the pier, the cars line up in the makeshift paddock while they await their turn.

There's a wide variety of

machines, from electric shopping to historic racing cars to modern supercars. Somewhere in between that scale is always a wide range of kit cars.

Those entered this year included at least two Sylva Phoenixes, a pair of Davrians, a Gardner Douglas T70 and numerous Seven style cars in the form of Tigers, Westfields and Caterhams.

You can get close to the cars (if you pay to get onto Madeira Drive) or enjoy a view from above from the main A259 for free – and as a spectacle, it's well worth seeing at least once.

www.brightonandhovemotorclub.co.uk



Midget with a Mini supercharger fitted.



We think this is a rare Sportcycle.



Words and pictures: Adam Wilkins



Southern Classics Society open to kits

The Southern Classics Society is a friendly and informal all-marque club for classic vehicle enthusiasts in the south of England. The Society puts on a number of formal shows as well as holding regular social gatherings and organised 'drive it days'.

Its August show at Worthing Rugby Club was blessed with sunshine which enticed out many classics and kits. The club is very welcoming to members and non-members. If you choose to sign up to the club at any show your entrance fee is refunded, making their modest joining fee even better value.

This event attracted over 100

cars with drivers invited to park in age related rows which was an interesting way to view the evolution of the classic car. With the event attracting a 1914 Model T Ford and a modern Caterham, there really was something for everyone.

A small autojumble was present also with a variety of car parts, literature and models/toys to browse. The club ran a raffle, auction and awarded prizes to each year group, as well as a visitor's choice award. For just £5 per car, or £2 for visitors on foot, the event was great value for money on a sunny Sunday. The Club typically runs events from March to December.

www.southernclassics.org.uk



Words and pictures: James Horsley



Kits on a Spa weekend



A group of GTs – including the Mk3R demonstrator featured in our October issue (106).

Late September's Spa Six Hours at the legendary Belgian circuit always attracts a good selection of classic road cars, as well as many of the finest historic competition machines racing in Europe.

Among the classics gathered in a special area reserved for interesting classics at Spa was a good cross-section of kits and specials, both old and new, mainly from the UK and the Netherlands, along with a few German and Belgian registered kits.

A star among these, and of great local interest, was the rare Apal GT, a VW Beetle-based coupé kit, made a few miles away from Spa in

Liège from the early to mid-1960s. The tidy GT was joined by another very scarce Apal; a period GRP replacement bonnet for Triumph Spitfires and GT6s. Other specialist Benelux sportsters including a nice Donkervoort D8 GTO, plus some local market Caterhams, Cobras, GT40s and Westfields.

A crowd of British Cobras waved the flag hard for us Brits, with a good line-up of Gardner Douglas and Dax models present, while clearly cherished overseas registered examples of some classic British kit car greats – including a Mini Marcos, Midas Gold and a smattering of Ginettas – stirred the soul. Some recent French-built turnkey PGO Cevennes speedsters were a welcome sight too.

Out on the damp and tricky Spa circuit, a number of kits fought hard with the mass production competitors, including Elvas, Turners, Marcos 3.0-Litres and a Lotus Seven S4, which is unusual to



A native GT40 replica.



PGO isn't a kit car, but worth including!



A tidy looking Ginetta G26.



Locally registered Westfield.



Donkervoort D8 with makeshift hood.



Apal offered this bonnet conversion for the Triumph Spitfire/GT6 in the 1960s.

Words and pictures: Gary Axon



Apal GT, a Volkswagen based GT car built in Liège between 1961 and '66.



The ubiquitous Mini Marcos.



Lotus Seven S4 was in the Six Hour race.



Gorgeous Ginetta G33.

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Opus Cars

Not one of history's best kit cars, but certainly one of the most memorable. Richard Heseltine puts the Opus HRF in its historical context.

It's a point often lost on hot rodders in the UK, but the movement grew out of the kit car industry. Really, it did. Scroll back to the mid '60s, and drag racing was just beginning to be recognised as a legitimate sport in Blighty, while prized copies of *Hot Rod* magazine were influencing a small band of car builders scattered across the country. The difference was this: we didn't have the raw materials. Pre-war American iron had been destroyed in stock car races during the 1950s on an almost industrial scale, while the arrival of the MoT test in 1960 no doubt shortened the life of those that had escaped death on the oval circuits. The point is, you weren't exactly tripping over '32 Model B car bodies or suchlike.

Fortunately, there were one or two pioneers who saw the bigger picture. One such was Geoff Jago who, perhaps more than anyone else, helped establish hot rodding in Great Britain. What's more, he was in it for the long haul, his products being a bit sketchy when



Above: Designer Neville Trickett getting to grips with the Opus HRF prototype.



Above: Racing great Stirling Moss (on right) was on hand for the HRF's launch at the 1967 Racing Car Show

viewed more than half a century on, but they were popular in period for a reason. The thing is, the hot rod kit that really kicked things off this side of the Pond was the Opus HRF. For a little while at least, it was everywhere and very much a home-grown take on the theme with everything that implies.

This unlikely machine was the

brainchild of the entrepreneurial Geoff Thomas who, in addition to being a qualified chemist and shop owner, was a motor racing fan who had owned sporting machinery such as Allards and a Jaguar E-Type. He and friend Neville Trickett had hitherto conceived the Minisprint, a Mini that, in American custom car parlance, had been chopped 'n' channelled. The new

Below: Opus on one of the handling courses at the MIRA proving ground. Brave driver!





Above: Driver's face is a picture as Opus is put through its paces at an SMMT track day in 1967.

project was wilder still. In late 1966, work began on what was ultimately christened the Opus HRF (Hot Rod Ford). Centre of operations was a small workshop in Warminster, Wiltshire.

Basis for the machine was a twin-rail chassis comprising round-section tubing. Running gear was a mixed bag of Blue Oval bits. These include an authentic-looking Ford E93A 'Pop' front beam axle riding on a transverse leaf spring and radius arm set-up but adapted to accept Anglia 105E brakes. The latter also supplied its rear axle, leaf springs, brakes and wheels (up front were 10in Mini items). Powering the prototype was a 1.6-litre Ford Cortina unit, although it was intended to accommodate most similarly-

sized engines. Over time, it would house engines that were much, *much* bigger.

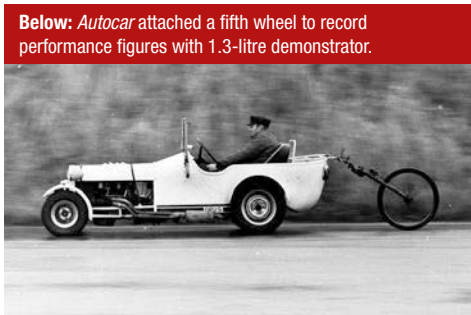
The radical part, however, was the Trickett-styled bodywork, such as it was. This was in no way an accurate replica of a pre-war Ford. Not even close. It was a very loose interpretation of a 'T-bucket' hot rod; a simplistic gel-coated glassfibre 'shell' with a radiator surround, a rudimentary bonnet and four mudguards. And with the body sorted, then came a surprise: Thomas was made MD of Corsley Garage, a firm that was established by gentlemanly Le Mans veteran Rob Walker who was well-known for fielding drivers in Formula One and elsewhere. Successfully so, his roster including the likes of Stirling Moss and Jo Siffert. The garage business sold high-end sports cars, not least Ferraris, Lotuses and Alfa Romeos, and, from now on, it would also sell Minisprints and the Opus. They

were both natural fits, after all...

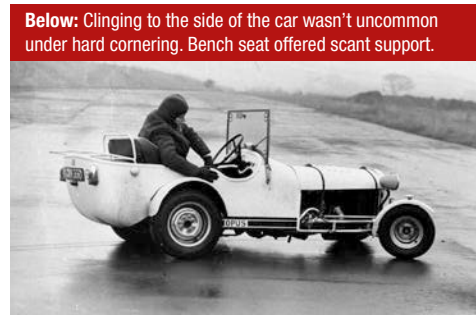
Thomas, who, along with his brother Graham, would subsequently take over the firm, chose to launch the HRF at the garage's Lotus Week promotional event in December '66. Lotus chief Colin Chapman and F1 and Indy 500 superstar Jim Clark would be on hand, as would the specialist media, so what better way of ushering in this brave new world? And both men did take a turn behind the wheel, Chapman's run being of the briefest kind. Clark, meanwhile, pressed on and apparently took the prototype up to 80mph only to encounter some cows ambling across the road. The double World Champion slammed on the brakes, only for the front wheels to lock up. The HRF pirouetted, fortunately without injury to anything other than pride for Clark who was renowned for his polished, millimetre-



Below: Pretty ladies added a little glamour at the Opus's big reveal at Olympia.



Below: Autocar attached a fifth wheel to record performance figures with 1.3-litre demonstrator.



Below: Clinging to the side of the car wasn't uncommon under hard cornering. Bench seat offered scant support.



Above: You tended to sit on an Opus rather than it is, as is made clear here.

perfect driving style.

The Opus made its public bow at the January '67 Racing Car Show at Olympia. Reaction was mixed, but it was surely one of the most photographed machines at the London event given the amount of press coverage it received. At only £99, the basic body/chassis package was super-cheap, even by standards of the day. For £400, you could have a partially-assembled car with 1.3-litre Ford power which, according to

its makers, could do 0-60mph in 7sec. This was a wee bit optimistic, but then it did weigh only 406kg.

And sales were initially brisk, although Trickett vacated the scene shortly after the model's launch. He moved to Bryanston, Dorset, to produce another barking device – the Siva Edwardian. It didn't help that the lease on the Warminster workshop had expired, so production of chassis frames was outsourced to a company in Weston-Super-Mare, while body tubs were moulded by Marcos Cars. Kits were stockpiled behind the Corsley Garage premises, with Thomas' secretary Jill Barwood multi-tasking as a salesperson. She did a lot to shift kits in the early days.

One early adopter was Clive Skilton, who would go on to find fame as a drag racing great. Another car intended for quarter-mile action in '67 was Chris and Cliff Jones' 'Opus One' which was powered by a supercharged 1.5-litre Allard Dragon (Ford crossflow) engine. This soon made way for a 2.5-litre Daimler V8! That same year also saw *Autocar* magazine put the demonstrator through its paces. In its Christmas issue, it braved a 1.3-litre version running twin carbs and its findings were somewhat tongue-in-cheek.

"The whole character of driving the

Opus belongs to a previous generation... We felt just like motoring pioneers," it stated. "Given the boot, as they say, the Opus understeered very strongly. As soon as you lift, the tail comes out. It's all very much like a Mini – which it shouldn't be at all, although, to tell the truth, we never had the courage to find out until we got to the great asphalt apron at MIRA.

"On the road, it's all too terrifying, but given spare slide-room, one can build-up speed to give very high cornering speeds. Indeed, before there is any serious loss of adhesion, the biggest problem is to stay in the bench seat... With the car stationary, we measured free play of about 2in at the steering wheel rim, and there was some additional movement which could clearly be seen as the front axle twisted on its mountings as the steering load was applied."

The model received additional promotion after *Hot Car* magazine constructed an Opus in 1968 and ran a series on the build. It even showed the car at the Earls Court Motor Show towards the end of the year although, many years later, editor/car builder Tony Bostock admitted in *Kit Cars & Specials*: "It was the worst car I've ever owned. I only drove it around the block once before realising that was enough. After that, I wouldn't ever touch it again. It's supposed

Below: HRF brochure hinted at fun car appeal.

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Above: Our man Peter Filby admires a Lotus twin-cam-engined HRF at Hindhead show in 1977. At least we assume that is what he is doing.

to be in Spain now. It probably blew up and landed there.” *Motor* magazine was equally scathing in its May 1969 report. “The bench seat gives you about as much support as a two-legged stool on a pony trap...” was one of its kinder comments.

By now, the Opus adventure was beginning to ebb. Some 200 or so kits had reputedly been sold in just three years, with exports as far afield as France and Venezuela, Vietnam and – remarkably – the USA. But even its makers had tired of it. Towards the end of '69, project rights were put up for sale and early the following year they were acquired by Formula Vee racer, Roy Dickinson. The Bristolian set about refining the concept, all things being relative, and moved over to square-section tubing for chassis frames. He

also repositioned the Ford Anglia steering box. His HSP Motors concern did much to improve quality, but his principal business – a Volkswagen dealership – took precedence over selling silly kit-form hot rods. Dickinson's interest waned.

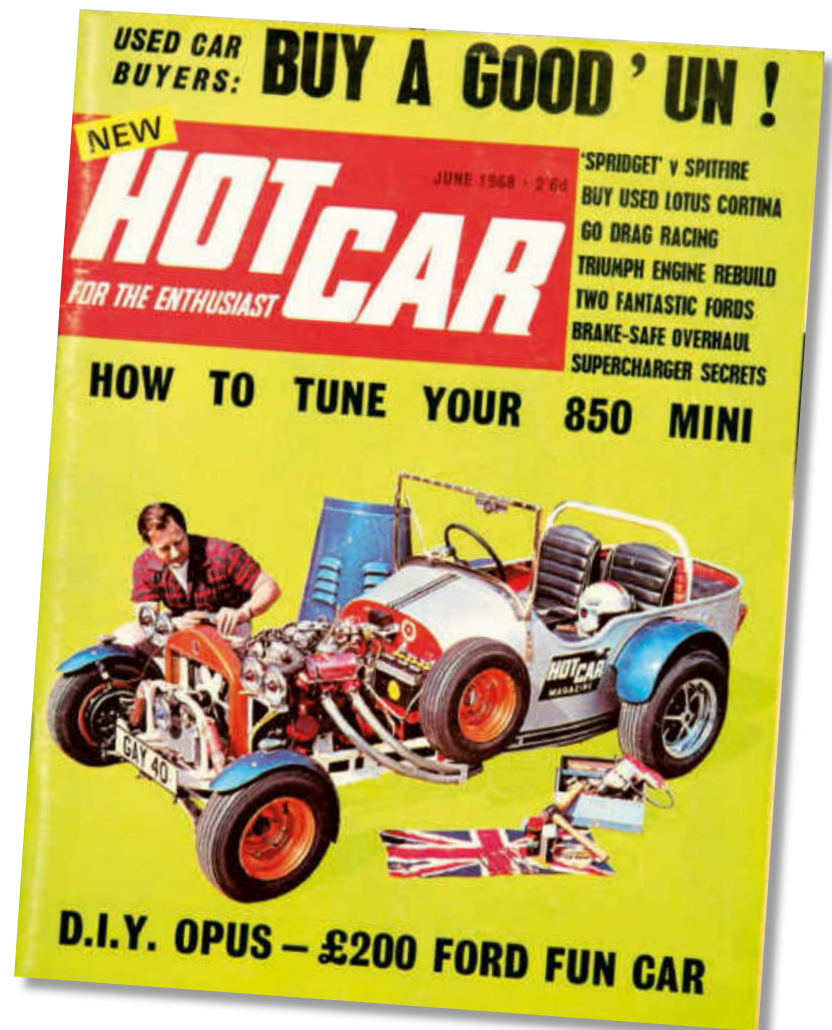
It didn't help that hot rodders, even in the early days, viewed the HRF as being too inaccurate to ever be taken seriously. Also, the fun car boom, which encompassed the beach buggy craze, had all but fizzled out by '71. Dickinson moved premises in '72 and chose not to revive Opus production at his new facility but that wasn't quite the end of the story.

Despite hardcore hot rodding types being a mite sniffy about HRF, drag racers continued to pound the quarter-mile in ever more crazily over-engined Opuses. Engines ranged from hotted-up Lotus twin-cam 'fours' to the obligatory V8s. One big-block Chevy-powered car scorched to an elapsed speed of 143mph that decade!

There was never any talk of a marque rival with a different owner. The Opus was a product of its time and its time was over. But, given the current popularity of nostalgia rodding, isn't it time that the HRF was granted some respect in that arena? It was jumping off point for the hobby in the UK and that surely must count for something. If nothing else, it's one of the most memorable kit cars the British industry has ever produced, if not necessarily one of the best. ■



Below: Cliff Jones' Daimler V8-engined Opus One was a well-known dragster in the late '60s and early '70s. **Right:** *Hot Car* serialised the build of a HRF in 1968. The editor drove it around the block and never braved it again...



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Leap of FAITH



Last month we followed first-time kit car builder, Paul Banks, as he created an immaculate GD 427 Cobra replica. This month we look at the finished article and see how he's been using it.

Words and pictures: Ian Stent

It seems unthinkable really. Would you buy a car without driving it first? In fact, without having driven anything even vaguely like it before? Would you invest potentially tens of thousands of pounds into a box of bits that you have to assemble at home... into a high performance sports car... with no previous mechanical experience beyond basic DIY servicing? In any logical train of thought, answering any of the aforementioned questions in the affirmative might appear tricky to justify.

But that's exactly what most first-time kit car builders must do. Only a few



Paul thought hard before opting for underslung exhausts.



Standard instrument layout with Savage buttons below.

Tech spec

Engine: 6.2-litre Chevrolet LS3 engine, Canems management, 430bhp.

Gearbox: Tremec TK56 6-speed gearbox.

Suspension: Standard Euro suspension, double wishbones and cast uprights front and back..

Brakes: Front – AP Racing callipers with vented discs.
Rear – Vented discs and Ford callipers.

Wheels and tyres: 18in Halibrand replica wheels. 245x40 R18 Toyo Proxes front tyres. 275x40 R18 rears.

Interior: Standard GD trim kit made to customer specifications, white faced Smiths gauges. Savage switches.

Exterior: Standard GD fibreglass bodywork in black gelcoat with twin white gelcoat stripes, underslung exhaust system, black stone guards, no front/rear bumpers or overriders.

kit car manufacturers have an insurance policy in place that will allow customers to drive a demonstrator, so a passenger ride is the best most customers can expect. And the reality is that most first-time kit car builders undertake their build with only very modest previous mechanical experience. No wonder it can be a daunting decision to make.

Paul Banks was most certainly in this situation when he committed to assemble a GD 427 Cobra replica in his tiny single garage at home. His previous mechanical experience was so limited it isn't worth committing to paper and, like many, his only experience of the car he chose to build was a passenger ride in the factory demo car. We covered his subsequent build in some detail in last month's issue, and it's abundantly clear that his limited prior knowledge of kit car assembly didn't hold him back when it came to achieving an immaculate end result. His car is a credit to him and the manufacturer.

But what is interesting is to hear his experience of driving the car for the first time. "I'd never driven a convertible before," says Paul, "or anything with a big V8 engine." It's a startling admission but perhaps, once again, not unlike many kit car builders. It's understandable then, that the first drive was both scary and exciting at the same time!

If the drive was nerve-wracking, Paul was also worried about how the GD would feel. "I was worried I might hear lots of whines, creaks or clonks." He needn't have been concerned... his meticulous build ensured none of those were present! And there was one other reason why that very first drive was memorable. "It was special, not just that it was the first drive of my GD 427, but to have my fiancée sitting beside me. She has been integral to every step and decision throughout the whole project and providing me with amazing support through the highs, lows and challenges, enabling me to complete this amazing car."

With the first drive in the bag, there was then time to analyse everything in more detail. One of the key reasons Paul chose the GD was its ability to accommodate his 6ft 4in frame and size 12 feet! As part of the manufacturing process, GD not only fitted its extended footwell package, but also modified the driver's seat so that it was both slightly wider and also had less padding, to get Paul sitting in a comfortable driving position. The end result has worked a treat.

As with any customer car, Gardner Douglas recommends that after 1000 miles, it should be returned to the factory for a free suspension check. Although not all customers take up the offer, it was an experience Paul recommends. Despite him being largely happy with the way



LOOK

Paul specified the fluting on the centre tunnel top, which then aligns perfectly with the fluting on the rear bulkhead.

Paul considered having contrasting piping for seats and other details, but eventually opted for an understated look.

the car rode and handled, the company's Andy Burrows took the car for a run and made a number of subtle tweaks to geometry and damper settings. With his vast experience of the cars, it's a real confidence booster for customers to know that what they've built now matches the expectations of the person that designed and manufactures them... you are now getting the most from the car you've created. But there was one other reason Paul made the trip back to GD...

Out of the box, the brand new LS3 V8 engine is supplied with a Canems ECU with a stock map. It was good enough that the engine fired and ran the very first time Paul attempted it during the build, and the car drove well after its IVA test. But as Paul got accustomed to driving his very first V8 convertible, he also felt that at low revs the engine's responses were a little too sharp. So when he brought the car back to GD, Canems' Dave Hampshire dropped over to do some live fine-tuning of the mapping. In the same way that Andy Burrows soon had the car performing the way he knew it could, Dave Hampshire soon made some subtle adjustments to the electronics that immediately settled the engine when running at lower revs. The combination of tweaks made the return journey an absolute joy and raised the GD's overall

ability to another level. It's service like that which helps to justify the leap of faith every kit car builder must make when placing an order.

When we meet up with Paul on a beautiful late summer's day, it couldn't be better Cobra weather! His jet black example is parked outside and is positively gleaming. It's important to remind yourself that this car is not painted, but is instead the original gelcoat finish, even down to the twin white stripes! The black and white livery works a treat and instantly endows the car with a high quality, menacing stance. Panel fit is as good as we've come to expect from GD and the fit and finish everywhere is spectacular. And there are some great subtle touches too, such as the black stone protectors on the rear wheelarches. Tidy.

The engine bay is also now familiar GD fare. Some people may prefer the old-school sparkle of polished aluminium rocker covers and air filter typically found atop a carburetted Chevy 350, but we defy anyone not to be impressed with the modern LS installation found here.

Before we head out for pictures, Paul pops open the garage door, to reveal one of the tiniest single garages we can remember seeing. It's a seemingly ridiculous space in which to contemplate



Useful contacts

Kit: Gardner Douglas Sportscars, Newark, Nottinghamshire.
T: 01949 843299. E: sales@gdcars.com W: www.gdcars.com

ECU/engine set-up: Canems, Scunthorpe, North Yorkshire.
T: 01724 700222. E: sales@canems.co.uk W: www.canems.co.uk

Electrical parts: Auto Electric Supplies, Tenbury Wells, Worcestershire. T: 01584 819552. E: info@autoelectricsupplies.co.uk W: www.autoelectricsupplies.co.uk

Powdercoating: Greenhill Finishers, Littlehampton, West Sussex.
T: 01903 722003. E: info@greenhillfinishers.co.uk W: www.greenhillfinishers.co.uk

Fasteners: Westfield Fasteners, Aylesbury, Buckinghamshire.
T: 01844 201133. E: enquiries@westfieldfasteners.co.uk W: www.westfieldfasteners.co.uk

Silicon hoses: SFS Performance, Luton, Bedfordshire.
T: 01582 509250. E: sales@sfsperformance.co.uk W: www.sfsperformance.co.uk



LOOK

Paul's car passed its IVA test at the first attempt and is registered as a brand new car. Level of finish he's achieved is spectacular.



I Built This

Name: Paul Banks

Occupation: Health and Safety Manager

First car: Vauxhall Chevette

Dream car: Aston Martin.

Best bargain: Fabrication of everything from GD.

Fastest car you've been in: Lamborghini Gallardo

building a Cobra replica, but Paul has shown it can be done, so it's no excuse for the rest of you!

Buckled into the passenger seat (as Paul would have been for his only experience of a GD 427 before he committed to build one), there are still things you can learn. Of course the car is fast and of course it has loads of low end torque, making for effortless cruising on those foreign and UK road trips that Paul has planned for 2016. But the overriding impression we get from the left side of the cabin, is the complete lack of chatter from either the suspension or body. As Paul attested on his first drive of the car, there are absolutely no clonks, clunks, rattles or squeaks from the GD... at all. Whether the underseal that he applied to the underside of the bodytub helps, his car has a production feel in the cockpit that is utterly impressive. There is simply no compromise here for the fact that it's a handbuilt car.

From Japanese tourists to dog walkers, the car creates a constant stream of questions from onlookers as we take pictures, all of which Paul is happy to answer. Did he ever expect the car to be such

a magnet for interest? Probably not, and yet another feature of ownership that he was unable to test prior to placing his order!

Jobs still to complete include carpeting the boot and fitting a soft-top, both tasks for the winter. In addition there are various little fettling jobs Paul has a list of, but nothing of much consequence. The winter upgrades should make the car perfectly placed for longer jaunts to the continent, and Paul is already drawing up plans for a road trip to Switzerland and beyond for next year.

Looking back over the build, he doesn't think he'd do anything differently, if he was given his time again... although he'd think long and hard before choosing black again – while it looks fantastic, it was a major job to get it perfect as it shows any imperfection. What he wishes he had been able to do was more of the mechanical build. Space restrictions in his garage meant he ordered the complete rolling chassis from GD, and it's an area of the project he'd have liked to do himself given the chance... and he may yet get his opportunity. While he doesn't think the GD 427 will be going anywhere soon ("I took over two years to build it,

and I want at least that time again to enjoy it now it's finished!"), he would consider another project in due course. A back-to-basics sand rail appeals, but he has no specific plans as yet.

Throughout this build, we've not mentioned cost. Paul takes a deep breath and coughs a bit before revealing the figure. He reckons it's close to £46,000, which we feel is right on the money for any decent LS-powered Cobra replica. Think about that for a second and he has a brand new car, with a 430bhp LS V8 engine, supercar performance and show-stopping looks. It may be a lot of money, but he's ended up with a lot of car! And Paul is absolutely delighted with what he's created. He's enjoyed the build experience and he's now enjoying the driving experience and looking forward to the adventures he can have in it next year.

Building a kit car may indeed require a leap of faith – potentially no test drive, no prior building experience and a substantial financial investment – but the rewards can be utterly spectacular, often surprising and invariably unobtainable in any other arena. ■



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MISSED PART ONE?

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Autosport International is the season opener and once again nearly upon us. The event gives enthusiasts the opportunity to get up close to a host of modern and classic competition cars, multi-million pound supercars and high-performance favourites at Birmingham's NEC.

CKC has two pairs of tickets to give away, each pair worth £70! It's a great way to see the show, with public entrance on the 16th/17th January 2016.

Visitors passionate about performance will love the *Autocar* display, an exclusive showcase that has included exotic supercars from marques such as Aston Martin, Ferrari, Jaguar, Lamborghini, McLaren and Porsche in recent years. Nearby, PistonHeads.com will feature some of its favourite cars.

We'll also be there with our

free-to-use Track Day Directory app, as part of a track day focused area at the show, within the Performance Car Show, in association with Autocar and PistonHeads.com. This will be a new innovation for 2016 that we are delighted to be a part of.

Elsewhere, the 5000-seat Live Action Arena provides an adrenaline fix with packed shows of live racing, drifting and record-breaking stunts, while there's also a host of interactive experiences to enjoy.

In addition, race fans are in for a real treat as Autosport International will once again feature the F1 Racing Grid, touring cars, rare and historic models, as well as an impressive line-up of motorsport's leading personalities. The show is the perfect place to hear some of the latest announcements ahead of the 2016 season.

Tickets are now on sale from £35 for adults and children from



£23 (children under five years of age go free). For more information and ticket sales visit www.autosportinternational.com

THE COMPETITION

Complete Kit Car is offering readers the chance to win a pair of tickets. To go into the running for tickets to this adrenaline-filled event just answer the following simple

question using information from the Performance Car Show website: www.performancecarshow.com

Closing date for entries is Friday 18th December.

Question – What's the name of the 'pub' where you'll find the PistonHeads.com display cars?

- A) The Pie & Piston**
- B) The Conrod Arms**
- C) The Crankshaft Brewery**

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The Swede FOR SP




Building a kit car in Sweden isn't as straightforward as it is in the UK, but that didn't stop Steve Claw from completing his GKD Legend project. He's just driven it back to the UK for a major upgrade – and then drove it all the way back again!

Words and pictures: Adam Wilkins

EED


Steve Claw made quite a journey to the Exeter show back in 2010 – having travelled all the way from his home in Sweden. His remoteness from the UK kit car industry wasn't going to deter him from building a car, though. In fact, aside from the distance there would be two other major obstacles for this Brit abroad in the quest to get his car on the road – one was regulatory, the other domestic. They didn't stop him, either. The only space he had to build the car was in his cellar, which was fine for carrying components in. To get the car out, though, he had to knock down a wall and dig out a new road. But that's all to come – let's rewind to Exeter 2010.





I built this

Name: Steve Claw
Age: 57
Occupation: Technical sales manager, Scania Trucks
First car: VW Beetle 1303S
Fastest car you've been in: Jaguar E-type V12
Favourite tool: Loads, but if I had to choose it would be the air riveter or Battle Axe BA88 air bellows jack



GKD's own supercharger kit adds around 100bhp to BMW four-cylinder.

He was there with the intention of choosing his first kit car to build, and was comparing sevenesque roadsters. It's always interesting to hear people's reasons for choosing one Seven style sports car over another when there are so many to choose from. For Steve, GKD's use of the BMW 3-series donor, unique in the sector, was the main draw. He also liked the fact that the company is based in Maidstone, Kent, which is where he's originally from.

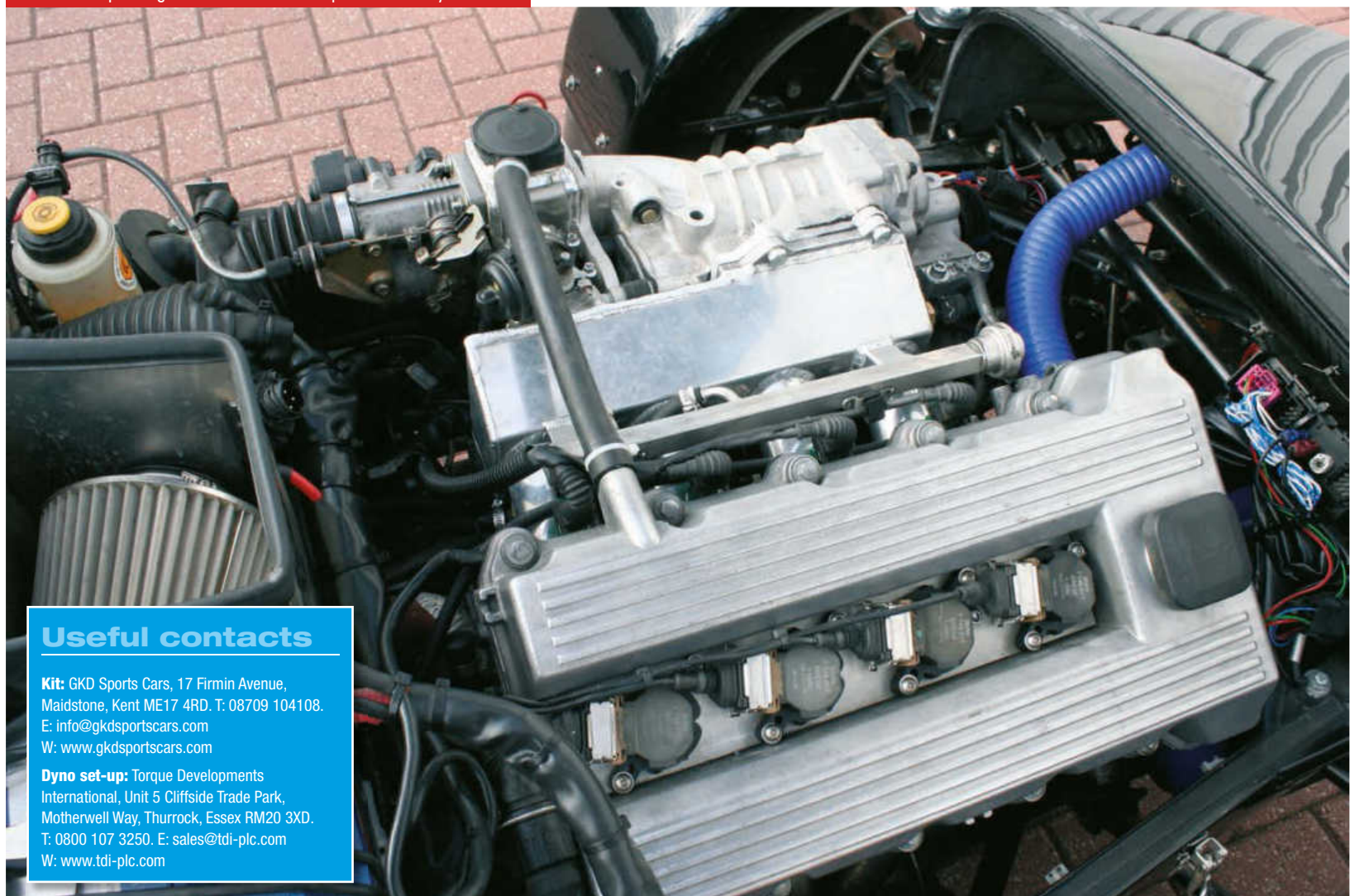
Steve placed his order in November 2010 and came to the UK to collect the kit two months later, driving all the way here on the spiked winter tyres that are mandatory in Sweden at that time of year. As well as picking up all the shiny new stuff from GKD, he also collected a pallet full of pre-stripped donor parts from nearby BMW specialist Bridgend Recycling (the same place that appeared on our 'alternative scrappage scheme' front cover back in 2009). There were no problems carrying all those parts, even the chassis, through the small door into the cellar after the 1000-mile plus drive home.

The process of getting a car on the road in Sweden is rather more complex than it

is here in the UK. Once the GKD reached the rolling chassis stage, the Sveriges Fordonsbyggares Riksorganisation (SFRO) came to his house to inspect the car. The SFRO was established in 1982 and exists specifically to help amateur vehicle builders register their cars for the road in Sweden.

On this initial visit, the SFRO performed a visual check which raised only a couple of points that needed addressing. The brake lines had to be replaced with plastic-covered items, and the steering rack needed extra welds so was sent back to GKD for the work. There were other areas, though, where points that would fail an IVA test are permitted. The most interesting cultural difference is in Sweden's reasoning for not allowing harnesses – apparently they encourage people to drive faster than they would with a conventional seatbelt. Surely the same could be said for *any* seatbelt? Or airbags or ABS?

We digress. When the car was complete, it had another appointment with the SFRO, this time at a local airfield. "They drove it around and spun the wheels just to make sure it all worked," says Steve. They also subjected



Useful contacts

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it to a drive-by noise test which had a limit of 94dB, which it failed. So it was taken home, remedied and taken back for a pass.

Once it was given the OK, Steve was told there was a three-month waiting list at his nearest registration office. Keen not to miss Sweden's short summer, he found another office that could see him right away – the only drawback being a 600-mile round trip to Gothenburg. But such trifling matters don't stop someone who has already driven thousands of miles to collect a kit and removed part of his house to get it on the road. He booked himself in.

It was only when he got all the way there that he was told that the GKD couldn't be registered because the chassis had been professionally manufactured and therefore it didn't meet the criteria for an amateur-build car. This despite the fact that he had told the SFRO that GKD made the chassis when they visited to inspect the rolling chassis. It was a familiar story of regulatory departments failing to communicate with each other, and after a bit of a process Steve was able to successfully appeal against the decision. But it was still a long, wasted

journey and, by the time the car was on the road in September 2011, the Swedish summer was over. "People just don't use special cars and motorbikes in the winter," says Steve. That said, he has winter tyres for the GKD so that he can make the most of it when it's not snowing. "If the sky is clear and the sun is shining, it's just fantastic!"

Since the car has been on the road, it has undergone regular upgrades. You can probably blame long winter nights for the fitment of parking sensors! Other changes have included swapping the rectangular tail lights for round ones, painting of the aluminium panels and the integration of a centre console with additional instruments.

The most significant upgrade was the supercharger, a conversion that was completed when Steve brought his car to the UK a few years ago. He fitted GKD's supercharger conversion kit that uses the blower from a Mini Cooper S. To add some spice to the long journey home, Steve went via track days at both Brands Hatch and the Nürburgring. Despite the fact that a problem with the rev-limiter saw the car restricted to 5500rpm for both outings, the car still performed



Legend's dashboard suits both left and right-hand-drive, which is handy!





Tech spec

Engine: BMW 1.9-litre four-cylinder, GKD supercharger conversion.

Gearbox: 5-speed.

Suspension: Front – Double wishbones, coil-over dampers, fabricated uprights, BMW hubs. Rear – Double wishbones, coil-over dampers, fabricated uprights, BMW bearings and flanges.

Wheels and tyres: 16in BMW alloys, Yokohama Advan Sport V105 MO 225/50/16 tyres.

Brakes: Standard 286x22mm BMW discs.

Interior: Black painted finish, bonnet scoop, triple roll hoop, Range Rover 'Supercharged' badging, parking sensors.

Exterior: Cobra seats, Sabell harnesses, BMW instruments, auxillary gauges, Savage switches.

considerably better than it did before – you can expect to see a safe 250bhp from the 1.9-litre four-cylinder engine.

And the most recent revision is an upgrade to the fuel management and ECU. The swap was carried out the day before I met Steve and GKD's Peter Lathrope at Torque Developments International, a dyno facility in the shadow of the Lakeside shopping centre in Essex. Out went the old system, where the supercharger's boost is regulated by a fuel pressure valve. The plus side of this method is that it retains the standard ECU and injectors. The downside is that it can lead to lean running when the driver comes on and off the throttle (unless you compensate by running it rich the rest of the time). It works, but it can be improved upon.

In its place is now a K Data ECU which can control the boost. It's a straight plug-in replacement for the BMW ECU, and the only other hardware required was upgraded injectors. The result? After a morning on TDI's dyno, 245bhp.

With such a long journey back

home, Steve obviously wanted the work to go as smoothly as possible. Sadly, once the rolling road session was complete the Legend suffered a mysterious poor running problem. Peter was on hand to help solve the problem, even swapping the ECU out of his supercharged Z3 demonstrator to eliminate the ECU from the process.

In the end, the fault was traced to two issues. Firstly, one of the camshaft sensors was a bit iffy, and the ECU had a dry connection somewhere within the circuit. Once the problems were tracked down, both components were replaced. Says Steve: "Peter has always been extremely customer focused and always been there when needed, weekdays or weekends. His help has been invaluable, especially for me living so far away."

He was able to complete a planned trip to Silverstone the next day, before the long drive home. The entire round trip totalled 2650 miles and the car's odometer clicked over 20,000 miles on the way home. Not bad for a car whose home climate restricts it to summer use only!

And the next upgrade? That might be cruise control, which will be a virtue on the long road trips to the UK. ■

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TOP 10... FUTURE KIT CARS?

Words: Ian Stent
Pictures: CKC archives

Choices, Choices...

We'd thought it would be simple... choosing ten cars we'd like to see as replicas which so far have been ignored by kit car manufacturers. How wrong were we!

As is often the case with Top 10, the call for suggestions went

out to CKC contributors Gary Axon and Richard Heseltine, in addition to the mag's editor and publisher. And what came back was more akin to claiming bragging rights to some of the most obscure cars ever created! There was also more than a whiff of superiority as some

(Axon) decided to include dates. Although none of us work in the same office, we could hear the others all saying of everyone else's choices. "You chose that! Really?"

So here for you to judge for yourselves are all of the suggestions, plus the chosen 10

to highlight, as filtered for some semblance of reality by Ian Stent. We are not suggesting it would be legal or right to replicate any of these cars... it's just a bit of fun. And if you think you can do better, email in your Top 10 to ian@performancepublishing.co.uk

- Lotus Elise GT1
- Ford GT90 concept
- Alpine A110
- Porsche 911 GT1
- Pagani Zonda
- Figoni et Falaschi Talbot-Lago T150-C-S
- Mini Beach Car
- Lotus Eleven Bread Van
- Ferrari 365 GTB/4 Panther Westwinds
- Bentley Blue Train

Adam Wilkins

- Lamborghini Gallardo
- Pininfarina new Stratos
- Porsche 917
- Iso Grifo
- Alfa Romeo 2uettottanta concept
- Maserati A6 GCS Berlinetta
- Batman Tumbler
- Mercedes W154
- Chip Foose Hemisphere
- Alfa 8C 2300

Ian Stent

- 1928 Amilcar CGSS Duval Coupé
- 1936 Delage D6-70 Figoni et Falaschi Competition Coupé
- 1954 Moretti 750 Grand Sport Berlinetta
- 1967 Alfa Romeo 33 Stradale
- 1967 CD Peugeot 204 Le Mans
- 1969 Mercedes-Benz C111
- 1976 Pininfarina Peugeotette
- 1991 Daihatsu X-021 concept
- 1996 Alfa Romeo Nuvola
- 1997 Chrysler CCV concept

Gary Axon

- Alfa Romeo TZ1
- Alfa Romeo Tipo 33 Stradale
- Alfa Romeo 8C 2900B
- BMW 507
- Lancia Zagato Hyena
- Phantom Corsair
- Elva GT160
- Mercedes-Benz C111
- Ford Mustang 1 concept
- Lotus 30 sports-racer

Richard Heseltine



Left: Have you ever seen this before? It's the X-021 concept car from... Daihatsu! What a fabulous looking little thing which we can see working well in the kit car scene.



Above: Mercedes C111 remains an all time iconic design and surely one of the company's most spectacular creations. We suspect any replica would have to be ultra authentic and come with a price to match. One for the purists who are prepared to pay.

Left: Axon nominated the Delage D6-70 Figoni et Falaschi Competition Coupe, but it could have been just about any other creation by this extraordinary French coachbuilding company. Everything about these cars requires aesthetic detail, so it would need ultra careful replication to end up with anything that could possibly do the original justice.



Pic: Wouter Melissen



7

Left: CKC may have only recently featured a Lamborghini Gallardo replica but nothing appears to be in regular mainstream kit production in the UK. Although the genuine car can be bought relatively affordably, we still think a decent replica on its own chassis and with Audi V8 power would be extremely appealing.

Right: A handful of Hemisphere hot rods have been built by creator Chip Foose out in the States and while we'd feel guilty replicating it or creating something similar, driving one of these things on UK roads would be something else.



6



3

Above: Maserati A6 GCS Berlinetta blew Stent away when he saw it at the 2014 Goodwood Festival of Speed. Ultra compact, beautifully classic and seriously purposeful, we can see this working well on a modified Cobra chassis.

Below: Alfa Romeo's 8C 2300 appeared in various guises, but rarely was it prettier and yet with more purpose than here in 1931 Mille Miglia Spyder form. Another upmarket replica beckons!



2



5

Above: Something a bit different, in the form of Lancia's Hyena of 1992. Based on a Lancia Delta platform, this Zagato designed creation saw limited production of around 25 cars. Tricky to recreate as a replica because of the unique windscreen and A, B and C-pillars, which mean rebodging an original Delta wouldn't work easily. We still love it though.



4

Above: Ford's GT90 concept for a modern GT40 was revealed in 1995 and it still looks amazing today. Use a modified GT40 replica chassis and you are halfway there... well, perhaps.

Below: This has to be one of the most striking Alfas ever and its compact size and mid-engined layout just make it perfect for the ultimate replica... don't you think? We love the Alfa Romeo Tipo 33 Stradale.



1

Your Letters

Got something you need to share with the kit car world? Need to let off steam about the kit car scene? Here's your chance to have your say – email us, and spread the word via this page.



Davrian memories

As a life-long fan of low volume cars, I often buy *Complete Kit Car*. As such, I was delighted to read the article on Davrian (October 2015, issue 106). As a young lad in the late '80s, I lusted after a friend's Mark 5, a car that he tarmac rallied and was never going to part with.

After spending months trying to track another one, I finally gave in and plumped for a Ginetta G15 (above), a similarly well balanced car (which I still own to this day). It's a very early car (Series 1) with the chopped fixed side window.



SEND US YOURS

Tell us your thoughts on all things kit car related. Email adam@performancepublishing.co.uk

Then around three years ago I managed to locate a Mark 5 and acquire it. The pictures show the car then and how it looks now. It's looking a little more tired these days but, as with most classic car owners, I have the best of intentions to bring it back to life...

Peter Bowling, Northamptonshire

Who needs 1000bhp?

I just finished reading the October issue of CKC. The scoop about the Ultima Evo was very interesting. It's good to let people know that a small kit car manufacturer can make such a supercar for a very reasonable price. It's also a very nice car, not angular as is the fashion for the moment, but a nice smooth nearly timeless design. On the other hand, it's not the kind of car I would buy and, in contrast to Ian Stent, I don't see why anyone would need 1020bhp on the road. But that aside, it's a stunning car and a great achievement for the manufacturer.

Antoine Ryckman, Belgium

I think Ian's tongue was firmly in cheek when he said he needs 1000bhp. But as for wanting it, that might be a different matter... – ed.

Letter of the month

Arkon: where is it now?

I have just received a copy of a page from *Complete Kit Car* that shows 'Arkon' built by Richard Moon and Neil Morgan. I am Richard and have often wondered what happened to Arkon, or where it is today.

The 'inspired name' was actually contrived from Arkwright Road and my surname Moon. The car itself was a progression of Scalextrix, to a radio controlled model, to a foolish, and probably Pipkin induced, idea to build a full size car.

I wonder if you can shed any light on its history since I sold it some forty years ago – and where it might be now?

This was our first build although we both had cars that required 'rebuilding' on almost a weekly basis to keep them going! Neil had an MG TC and I had a special built around an Austin 7 engine and A-frame chassis. I changed the engine to one from a Sprite, but couldn't fit the starter motor, so I always had to crank it.

We were in talks with a company who expressed an interest in building the Arkon in limited numbers, and in a slightly increased size. They had the car for some time to evaluate it but decided against it.

We decided on the Spitfire chassis because it was a good backbone to work from and it had good wishbone front suspension. It was good to cannibalise and to

fit a rear engine. The Imp engine was light, being aluminium, and low as it was canted. We used to test the car after dark on the road when it was just the framework and not registered, insured, or anything! In the very early days, before lights, doors, silencer or almost anything, we'd drive it round a private estate green. Two or three circuits and back to hide in the garage and then watch as a police car came by after abortive phone calls from irate neighbours! Mad days but fun.

We had plans to tune it but only got round to fitting a Weber TC carburetor and not much more as we ran out of money.

We have never had plans to build another. Neil sailed off to Iceland in a small boat and I got married! My building skills were put to more domestic matters such as furniture etc. It therefore had to be sold, but not until about six years after building it.

It was low and used to go under car park barriers. We had great fun in it and it caused quite a stir wherever it went. Mini skirts also help cause interest when getting in and out. We had many funny and admiring notes left on it particularly when parked in London.

Richard Moon, via email

Great background information! Thanks for getting in touch. If anyone knows where the Arkon is now, or where it's been, contact us and we'll pass the information on to Richard – ed.



Letter of the month wins its writer a top quality CKC fleece



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The Mega S2000 is the best Westfield we've driven. Here's reader Bill Bourne's build

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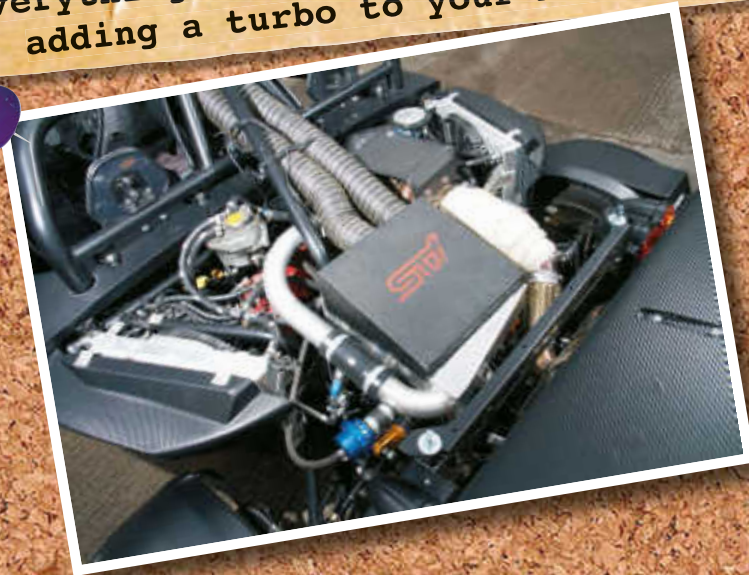
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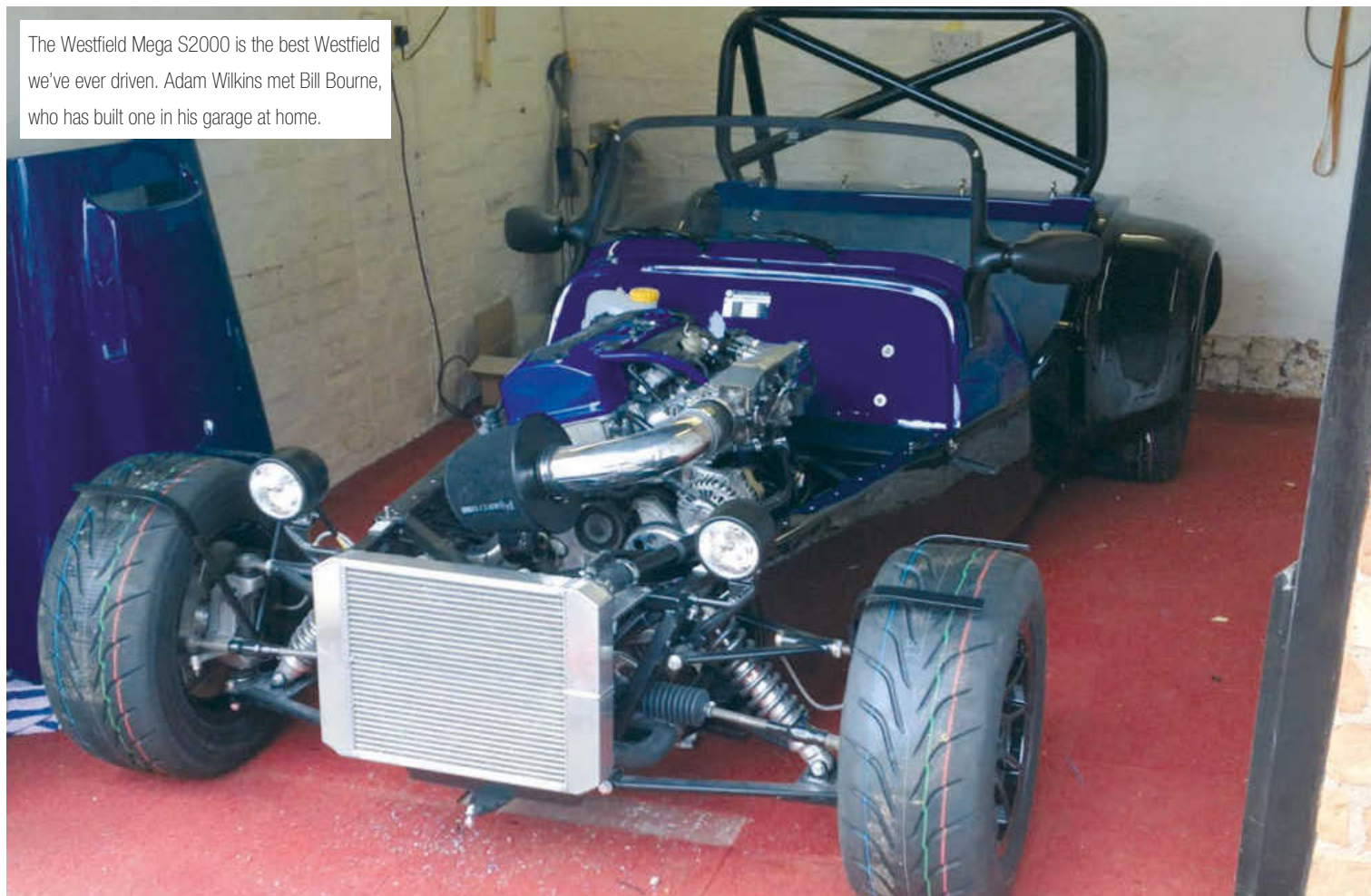
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Westfield Mega S2000

The Westfield Mega S2000 is the best Westfield we've ever driven. Adam Wilkins met Bill Bourne, who has built one in his garage at home.



When Bill Bourne came to building his Westfield Mega S2000, he knew which kit car he wanted to build with very little research. Already a veteran of an MK Indy and other Westfields, he

was familiar with the kit car market and knew exactly what he wanted from his next project.

In fact, his first foray into kit cars was even longer ago. When his first car, a Mk1 Ford Escort 1300 GT, had expired, it was cannibalised as a donor

car for a Dutton. Although he built it up to the stage where it could be driven around his parents' farm, it was sold as an unfinished project. It would be a good couple of decades before he got back into kit car building with the MK.

Aside from cars, Bill's other

Below: Mega S2000 is Bill Bourne's third Westfield.



Below: Chassis on stands, where it stayed for most of build.

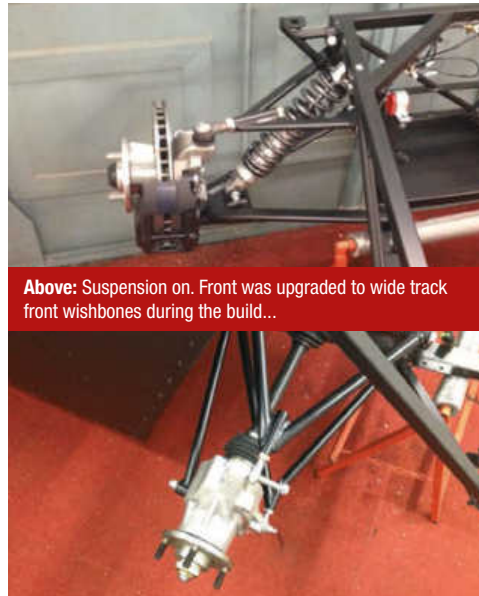


Below: Chassis redesigned to set S2000 engine well back.





Above: Fitting aluminium panels was the first job.



Above: Suspension on. Front was upgraded to wide track front wishbones during the build...



Above: ...and aluminium uprights were another upgrade.

passion is motorcycles, and he has won numerous trophies in trials competitions. It's motorsport that Bill enjoys more than road miles and, in 1995, he bought a second-hand pre-litigation Westfield for sprints and hillclimbs. Once that had gone, he went back to bikes for a while before building a Honda Fireblade powered MK Indy in 2003. Things got increasingly serious with hillclimbing, and the MK was sold to make way for a purpose-built competition car in the form of a Jedi. It came with a Honda CBR600 engine, which Bill swapped to a Yamaha R1.

His next kit car would be another second-hand Westfield, this time a 2003 model powered by a Red Top Vauxhall engine. Sticking with the Vauxhall theme, the car went to make way for a VX220 Turbo, which has only recently been sold now that the Mega S2000 is on the road.

But we've got ahead of ourselves. "I wanted to build something upmarket," says Bill, "so I went to

the Westfield factory. I knew all along I wanted to build the S2000. The engine and gearbox combination is so good it's daft not to use it." As well as liking the high-revving 2.0-litre Honda engine and its associated 6-speed gearbox, Bill also really liked the way Westfield had engineered the car specifically for the package.

The chassis has been redesigned to allow the engine and gearbox to be located well back in the car. When you look at the engine bay photos, it's clear to see how the top of the bulkhead has been changed. It means that the front of the engine is well behind the front 'axle line' for optimum weight distribution. None of this was lost on Stent when he tested the Mega S2000 at launch (April 2013 issue) and declared it the best Westfield he'd ever driven.

After a test-drive with Westfield's Simon Westwood at the wheel, Bill was also convinced of the same and placed his order. Almost everything came

from Westfield in a modular package. "That's the joy of a Westfield," says Bill. "Everything is available off-the-shelf and just fits. I don't mind making up brackets and fabricating things – in fact, I quite like it – but it's not necessary with a Westfield."

That doesn't mean there's not scope to change things, though. "As the build progressed, I decided to get the wider front wishbones, bigger brakes and aluminium uprights. 'Upgradeitis' set in before it was even finished!" As with the cars that have gone before it, the Mega S2000 will be used for sprinting and hillclimbing. "I'm not that into blatting," says Bill. "I prefer competition."

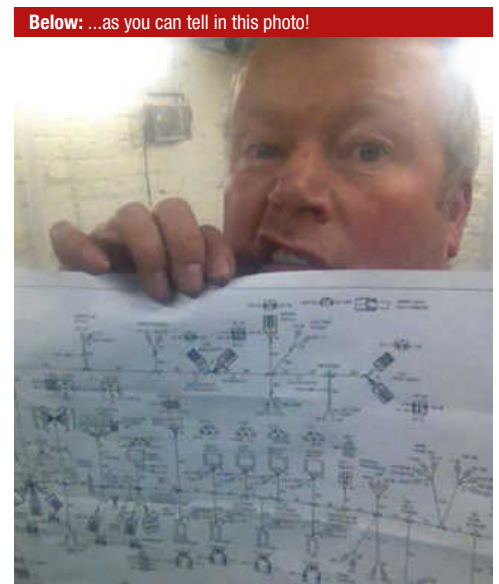
It was September 2013 when the chassis and other parts to get the car rolling arrived, followed by the bodywork the following spring. Inbetween times, Bill sourced the engine and gearbox. Bought from eBay, this is one of the few things for the project that didn't come directly from Westfield. Already stripped from



Below: Protech coil-over dampers fitted all-round.



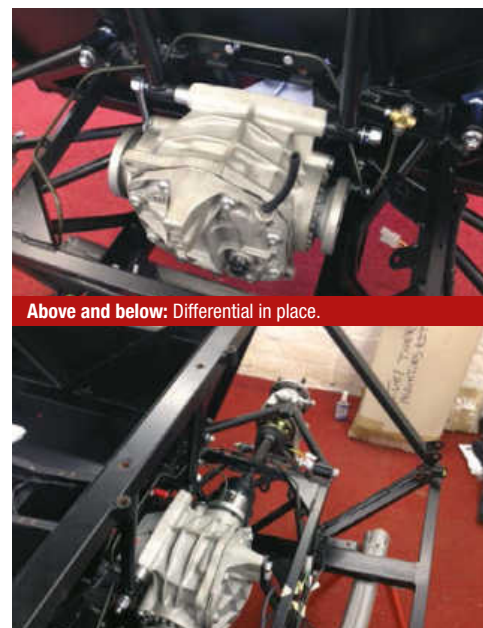
Below: Wiring isn't a job Bill relishes...



Below: ...as you can tell in this photo!



Above: Honda S2000 engine and gearbox sourced from eBay. It would be some time before Bill heard it running!



Above and below: Differential in place.

Tech spec

Engine: Honda S2000, 240bhp.

Gearbox: Honda S2000 6-speed.

Suspension: Front – Double wishbones (wide track), Protech coil-over dampers, aluminium uprights. Rear – Double wishbones, Protech coil-over dampers, aluminium uprights.

Brakes: Front – Vented discs with four-pot calipers. Rear – Discs.

Wheels and tyres: 13in Team Dynamics Pro Race alloys, 206/60x13 Toyo Proxes R888 tyres all-round.

Interior: Sport Turbo seats, digital dashboard with lap-timing capability, Mountney steering wheel.

Exterior: FW rear bodywork, V8 bonnet, MSA approved roll-over bar, Honda badging, aero fuel cap, carbon fibre exhaust silencer.

a Honda that had suffered a rear-end impact, the engine could be turned over with a spanner but in all other respects Bill had to take the seller at his word that it was a good runner and handed over £2200 for the engine and gearbox package. "I was quite relieved when I came to start it two years later!"

Now running the aforementioned

farm, Bill has access to a sizeable workshop – but that's not where he put the Westfield together. "All the spanners in there are AF, so they're no good for working on cars," says Bill. Instead, he built the car in the single garage, which came with its own compensations: it's easier to keep warm and is closer to the house. "That made it much easier to do a couple of hours during winter evenings."

With the chassis on stands, the first job was to fit the aluminium panelling. It was finished in black powdercoat to match the final blue and black colour scheme of the car. The car stayed on the stands as long as possible to keep things at an easy working height. The panels were followed by the brake lines, suspension, differential and fuel tank. Bill reports no difficulties here: true to expectation, the Westfield bolted together easily.

The chassis was still on the stands

when the engine and gearbox went in. While there's loads of space in front of the engine, towards the back of the engine bay it does a pretty good job of filling the available space. "It's not heavy but, being aluminium and having a lot of webbing, it's quite a bulky engine," says Bill.

Prior to fitting the engine, Bill thoroughly cleaned it up to make it look as shiny and new as the rest of the car. As part of that overhaul, he had the rocker cover powdercoated blue. The company he took it to recommended that he removed the internal baffle, which was rivetted to the rocker cover itself. They required drilling out, and then the holes needed tapping so that it could be screwed back in. It was one of those jobs that turned out longer than planned, but the result is worth it. By luck, the powdercoat is a close colour match the blue gelcoat of the Westfield's bodywork.



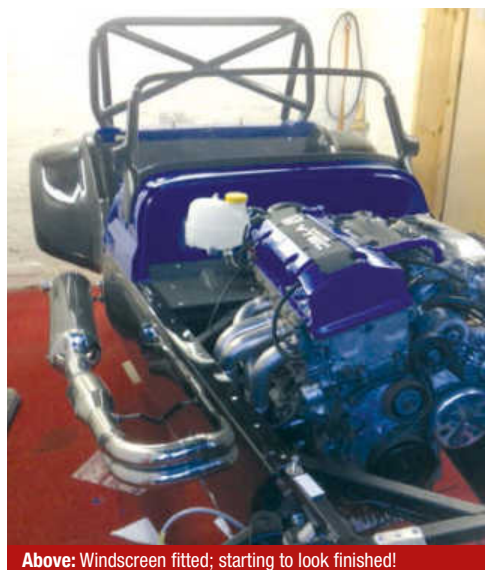
Below: It's a snug fit! Not heavy, but it's a big engine.



Below: Chassis still on stands when engine fitted.



Below: Body shutlines set remotely before being fitted to car.



Above: Windscreen fitted; starting to look finished!



Above: Engine plumbed in and car now on its wheels.



Above: Digital instrumentation can measure lap times.

Bill lined up the body panels away from the car before fixing them permanently to it. "The shutlines are easy to get right, but if I did it again I'd spend a little more time on it. The bonnet isn't quite right, but only I see it." Bill chose the FW bodywork, although for the Mega S2000 that only applied to the distinctive rear end styling. At the front, the height of the engine means that only the V8 bonnet, with its tall air scoop, fits.

At this stage, the car was starting to look finished – despite the fact it was still on the stands rather than its own wheels. The windscreen and wipers went on next,

although there's no heater. "I can't see myself using the car much in winter, and even if I do there's enough heat from the engine," says Bill. That said, weather gear could be added at a later date.

Pretty soon, the car was wired up and the interior was in. Bill admits to getting a pro to help with the former. "Electrics aren't my thing," he says. "Give me a big spanner any day..." Once the car was on the ground and running under its own steam, in the summer of this year, Bill booked it in with Westfield for a pre-IVA checkover. The list of jobs was short, and centred mostly around adding trim to remedy

Useful contacts

Kit: Westfield Sportscars, Kingswinford, West Midlands. T: 01384 400077.
E: info@westfield-sportscars.co.uk
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sharp edges. The factory also changed a seized wishbone bolt. It was a worthwhile exercise, as the car passed IVA at the first attempt.

"I went to Kidderminster, where the Westfield factory takes its cars, so they were familiar with the car. But they were very thorough – which I was pleased about," says Bill. That was in mid-June, so he decided to wait until September before registering the car so that it would receive a 65-plate rather than a 15. "At one stage, I spoke to the DVLA on the phone and they read out a 15-plate. When I told them I wanted a 65, they said I'd have to apply after 1 September. I knew that wasn't right because regular cars are ready to go on 1 September." In the end, he did get the 65-plate he wanted in advance of 1 September, and had the numberplates made before the day.

Unfortunately, the car hitting the road coincided with good weather. For most people, that would be good news. For Bill, it meant a very busy time on the farm so the car has covered under 100 miles and is still in need of a rolling road session to get the engine running right. That might be a job for next spring, but you can see the finished car in the next issue. ■

Below: Now finished, and on its way to the IVA test having had a check-over at the Westfield factory. Finished car will be featured next issue.



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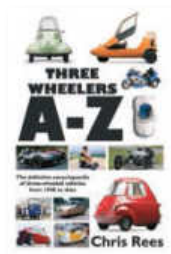
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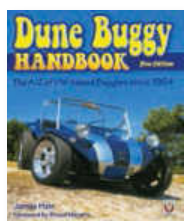


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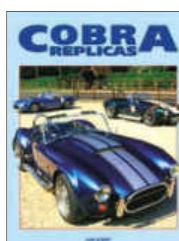


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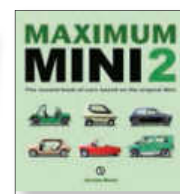
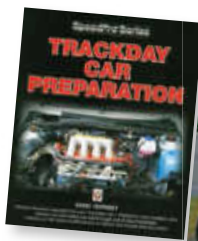
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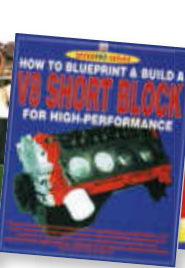
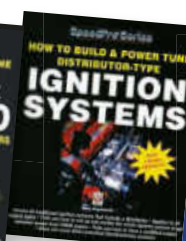
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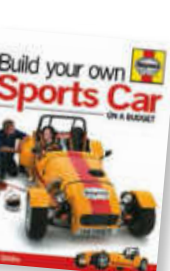
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Our Cars

John and James have been busy in their garages. John's UVA Fugitive now has new tyres to fill out the rear wheelarches, while James's Nova's canopy has received some attention and he has prepared the buggy to have a hood fitted.



The first thing I did was to email Ash in America to tactfully ask him how he was getting on with mating my VW crank pulley to my 36-1 trigger wheel. Personally, if I were emigrating to the USA, the last thing on my mind would be to take someone else's engineering work with me but Ash, god bless him, had taken my components across with him, already machined them and was about to weld them together – so I should have them soon.

Next on the list was to find some garage space by getting the new wider wheels refinished, fitting the tyres and getting them on the car. The old wheels and tyres could then be sold. As I said in my last report, the widest readily available tyres that would fit my car are 235/60x15. Having said that they are still not exactly thick on the ground. Pirelli, General Tire, Nankang and Kenda tyres are all easy enough to find, but

the Pirelli tyres are about £180 each. That narrowed my choice somewhat.

As I usually do, I chased around the internet for a while looking for reviews and the best choice seemed to be the Nankang versions which I

got for £104 a pair delivered to my door. When they arrived, they looked awfully wide. I hoped I did my sums correctly. I also hoped the engine has enough power to turn them. These wider tyres, with the same 60 per



John Dickens

PROJECT
UVA Fugitive

THIS MONTH
New tyres for the Fugitive fill the rear arches much better.



Below: New tyres looked very wide compared to old, but fill arches much better (below before, bottom after).





Above: This modified short bump stop was no longer needed as the ride height had been changed earlier...



Above: ...so John refitted a polyurethane version of the standard bump stop instead.



Above: Using masking tape to accurately measure the new rolling circumference of the tyre to recalibrate speedo.

cent aspect ratio, will also have a slightly larger rolling radius (about 5 per cent) than the current fitment, so that will help a little with the undegearing evident at the moment.

The wheels were refinished at We Fix Alloys, the same company that did such a good job on my original wheels. Once again, the results were stunning and the cost, at £130 for the pair, was very reasonable. That price also includes tyre fitting, new valves and dynamic balancing.

Comparing the new and old wheels directly highlights the differences. I thought that I might have to juggle with the wheel spacers

to find clearance for the new tyres, so I bought some 10mm and 5mm spacers listed for VWs. In the event, neither of them would fit so I decided to go with the ones already in use. While I was changing the wheels I also refitted the standard length bump stops. Because I had raised the suspension shortly after running the car for the first time, my custom made shorter bump stops were no longer needed.

Once fitted, the wheels definitely look the part (main image on the opposite page). They fill the rear mudguards perfectly and make the whole back end look more

aggressive. They could ideally do with spacers around 5mm narrower than the current ones but that's a project for much later. The final job was to get the pressures correct then measure the rolling circumference of the tyre so that I could recalibrate the Koso speedometer. This is simply a matter of altering one parameter (the distance travelled by one revolution of the tyre) in the settings and it's up and running again.

All I have to do now is to sell the old alloy wheels and tyres and the set of steel wheels I bought in case I needed to band them – eBay here we come.



James Horsley

PROJECTS

Apal buggy and Nova

THIS MONTH

Progress on the Nova's roof and the buggy's hood.

Over the last month, I have been thinking mainly about roofs. Perhaps the change of seasons influenced me! With the Nova away for engine work, I had little left to focus on other than the canopy. This is of course still the Nova's show piece, so I need to get the hydraulics working. The hinges on the donor Nova have rotted through in parts but fortunately another Club Nova member, Rabs, had passed me a nearly complete set of hinge arms. From these pieces, I have been able to make a complete set. The arm bushes all needed pressing out prior to blasting and some small repairs. These are currently in progress and then the plan is to have them powdercoated.

I had also sourced some old Smiths minipack pumps – the original pump of choice for the Nova. However, these are somewhat loud, and I had run a quieter more modern pump on my last Nova, so I was unsure whether to settle for the early pump. The two variants also work in different ways in terms of wiring looms and relays – so changing over later would mean reworking the wiring set-up, too. When a complete pump, rams and lines kit appeared on eBay I was interested. When I realised

it was being sold by a fellow Nova enthusiast, who had actually supplied me the set-up for my last Nova, a deal was swiftly done – including a purpose-made wiring loom. Longer-term, a remote set-up will be added, but for now a key switch and internal switches will suffice.

The other roof aspect of the Nova that has been bugging me is the large sunroof hole, and lack of

sunroof glass. I have gone through various suppliers trying to find an exact match but, in the end, could only find a solution that was around 2cm larger all round. The new frame looks like it should be a good match contour wise, and most importantly (in case of hydraulic failure) the glass can be removed from inside the car – I only had to do it once on the last Nova when a faulty switch blew the

Below: While the car is away, the Nova's party piece, the canopy, is receiving some attention.





Above: Old sunroof was the wrong size, so James sourced this new one.



Above: Instructions for the new sunroof look complicated, but it will probably become clear once James starts work.



Above: A complete new hinge arrangement for the canopy. Quieter than the original Smiths pump used in period.

fuses! The instructions are simplified diagrams printed on a large card template, and the box itself. They seem complicated, but hopefully when I get brave and start trimming it will come together.

Moving across to the buggy, the return journey from CarFest was the last straw for me trying to convince myself I didn't need a roof. Towing a buggy through a muddy campsite, and back in a rainstorm resulted in mud getting everywhere – even under the seats, parcel shelf and throughout the interior. I have set a date with a local trimmer to get a hood made.

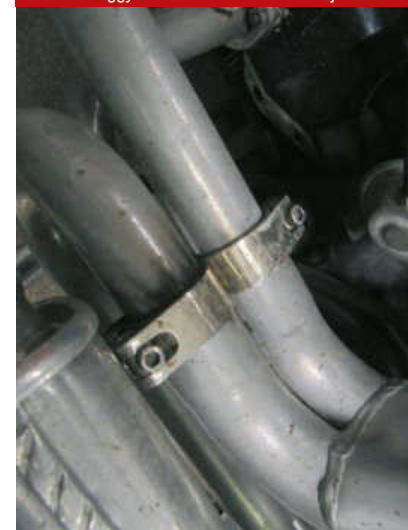
Much measuring has already taken place, and a price agreed based on me fitting the studs before it reaches him. 'Lift the dot' studs have been fitted, which involved much nervous measuring and very careful drilling. With the windscreen being the only symmetrical part on the car, the front

centre stud was my starting point, and the next 35 were measured from there. A combination of bolt-in versions (for the windscreen frame) and screw-in versions were used. I found the screw-in versions easy to fit with a socket on a screwdriver, ensuring the hole was well drilled to avoid splintering the gelcoat. My only complication was on the right-hand side of the tub I had glassed in a wiring tube. My stud holes were very close to this and careful measuring and drilling was required to avoid damaging the loom.

Despite the weather mentioned, I have managed a few runs out in the buggy too, and have been getting the odd backfire. I had initially put this down to the carb settings, but closer examination of the engine when cleaning the car spotted some soot marks on one exhaust joint where gases are escaping. I suspect this is

the cause, so I plan to strip down the exhaust over winter and reseal all joints. Maybe I will give it a decent clean then, too. ■

Below: Buggy backfire traced to exhaust joint leak.



Below: Mud everywhere! Trip home from CarFest convinced James that the buggy does need a hood after all.



Below: Windscreen frame is only symmetrical part of the car, so that was the starting point for positioning studs



Below: Lift the dot fasteners come in both screw-in and bolt-in formats. James used both for the buggy.



Below: X marks to spot! There would be 36 studs that needed measuring and drilling...



Below: ...Care needed to avoid damaging the car's finish. The studs follow the line of the bodywork.



Below: Hood itself will be fitted by a trimmer. Price was agreed on basis of James fitting the studs himself.



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Keep out the elements

A portable garage may be your only option in which to build a kit car, or perhaps keep a completed car out of the elements. As the temperature drops, CKC considers the options when it comes to keeping you and your car dry this winter.



Contacts

CANVAS & NYLON

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W: www.canvasandnylon.co.uk

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Continued opposite

In an ideal world we'd all have a double-width garage connected to our house that we could walk straight into that was well lit and warm... the perfect environment for building a kit car. But most of us don't!

At the other end of the scale you may not have any garage available to you, whether on your property or nearby in an *en bloc* facility. You may be able to rent somewhere nearby, but it may not have light and power and it means a journey every time you want to work on a project or simply take your kit car out for a run.

If you want to keep your kit or car where you live, another option is to consider a portable garage, which may be a larger space in which to undertake a build, or perhaps a smaller space just to enable you to protect your pride and joy.

CONSTRUCTION

Most portable garages follow a similar style of construction, with a tubular steel skeleton over which is draped and secured a soft cover. However, this is often where the similarities end.

Different companies will use different gauge tubing, different methods of fixing and different qualities of cover.

Look online and you'll find companies offering some very affordable products, but look on the forums and you'll also hear stories of these collapsing in modest weather conditions and, in some cases, causing considerable damage to the car inside. It pays to look into the details and spend more to get something which will stand up to a typical British winter and last more than a year.

So always consider...

- Diameter and gauge of tubing.
- Method of rust protection – typically powdercoating or galvanising.
- Type of fixings – stainless, galvanised etc.
- Method of ground location.

- Thickness and quality of cover – typically polyethylene tarpaulin, PVC or canvas.
- Method of locating cover to frame.
- Doors – how they are fastened and work.

LOCATION/GROUNDWORKS

A temporary garage is never going to be completely secure against theft. If you have a large off-road parking area, then this is obviously an option, as is perhaps a side passage (which might typically

Below: There are lots of different ground pins. These are just a selection.





Canvas & Nylon Company

Canvas & Nylon Company offers both a conventional portable garage and also a folding portable garage where the cover is lifted over the car in a paramulator action... the later is purely a storage option, not a working environment.

Portable garages feature flocoated steel tubes and three cover materials are offered... polyethylene tarpaulin, heavy duty nylon or canvas. All garages are 2.4m wide and range in length up to 6.1m long. Price for a 6.1m long polyethylene portable garage is £680.

Folding garage options are available in the same differernt materials with prices starting from £310.



Contacts cont.

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RAMP-IT-UP

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W: www.ramp-it-up.co.uk

lead to an already full garage). Both options have the potential advantage of being on tarmac, gravel or some other hard surface, but both come with very obvious security compromises too. If you are able to get access to the garden behind your house, then this may be preferable in terms of security, but has the compromise of being located on grass (see below).

Locating the garage on a hard surface is beneficial in terms of reducing moisture levels, with the flip side being grass, where condensation can be an issue. If you are working on a car or building a kit, then a soft surface is far from ideal in terms of using a jack or having a chassis on axle stands... some form of temporary hard flooring will be required.

Wherever you locate the garage, it needs to be securely held to the ground to avoid being moved by strong winds. On grass this can be easier, with a number of different ground pins available, from quite modest to seriously heavyweight. At CKC we have some massive pins to hold down our large marquee (which is ratchet strapped onto them) and it's super secure as a result.

On hard standing this can be much



Machine Mart

Machine Mart sells a range of 'Instant' garages. Tubes are powdercoated and the cover material is a UV treated triple-coated polyethylene tarpaulin. Prices range from a very competitive £262 with the smallest size being 3m by 4.6m by 2.4m. Ratchet system used for tensioning and locating the cover looks neat. Roll up front entrance. You'll find an easy to follow guide video on the website showing you how to put one together.

more difficult and the likelihood is you will not want to be driving holes through the tarmac or paving slabs at the front of your house. However, if you are looking at a longer-term

solution and are happy to locate into the surface, then either pins or expansion bolts may be an option. Beyond this, you will need a selection of significant weights that can be



Hamilton Classic

Hamilton Classic offers its Autopod, which differs somewhat from the others featured here. Using a more conventional tent material, the Autopod is double skinned and can be fan assisted to reduce moisture levels to a minimum. It's available in one size, the inner space being 2.5m wide and 5.5m long. The unit features a tough PVC floor while the inner and outer layers don't touch each other, therefore further helping to reduce condensation. Price is from £595.





Carapace

Here's a completely different take on the portable garage conundrum. Jeran Innovations has developed the Carapace, a fibreglass structure with gas ram assisted main entrance and optional side door. As with the foldable garages, this is a car storage solution, rather than working space, although we reckon there should be room for minor maintenance tasks when leaving the main door open. Prices start at £6720 (inclusive of VAT) which includes delivery and installation. Although expensive, it should prove extremely durable and offers a greater degree of security. And like the others, it can always be taken with you when you move house.



located around the garage and onto which can be tied the structure of the garage. On the smaller folding garages another option is the use of ground plates which are located under the four wheels of the car and which also clip over the lower rails of the garage, thus holding it firmly in place with the weight of the car.



Above: Ramp-It-Up in Bristol will rent you garage space. Franchises are being rolled out next year.

ALTERNATIVELY

If you just need to do a particularly tricky job for which your existing facilities are not suited (for instance, if you need a ramp to lift the car off the ground) and you'd rather not entrust the work to someone else, then Ramp-It-Up in Bristol offers a drive-in, drive out service for DIY enthusiasts to use its extensive facilities and even its tools!

As an example, to hire a ramp and tools for a half day is just £45, and there's always an experienced mechanic on site to give advice or lend a helping hand if you need it. Longer hire periods are also available, up to a month, so for a retrim or more major mechanical overhaul this could prove invaluable. If you're not in the West Country, then Ramp-It-Up is in the process of franchising the set-up across the country, so expect new centres

appearing in 2016. We can see this as being a useful option for a pre-IVA inspection where you want to check all over the car and get the car raised off the ground to inspect the underside.

SUMMARY

Portable garages are of course a compromise, but they do allow you to work on your car at home when it may not otherwise be possible. You can easily get light and power into them and have instant access to all the tools you may keep at home. Equally, if it's just as a store for your completed car, keeping a kit car out of the elements in a pop-up garage is far more desirable than either leaving it outside all year round or under a simple car cover. Kit cars generally don't like living outside, and a portable garage could be a useful investment when your options are limited. ■

Cover Systems

Cover Systems offers a paramulator style portable garage that can be lifted over the car once it is driven into place. Two sizes are available, both featuring galvanised frame work and polyester cover. Options include wheelplate fixing of the frame and also a security clamp to stop the frame being lifted by others. Prices start from £530.





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Ian Jackson

PROJECT

GKD Legend

AGE

46

OCCUPATION

Police officer

PROJECT START

March 2015

After a few weeks of seemingly no progress – due to doing those unseen jobs like running wires etc – I now have an object that is clearly recognisable as a car. So now it is on to tweaking and making sure everything is in the right place and fixing things down.

At Stonleigh earlier in the year, I managed to pick up some carpet and this was duly trimmed to shape for the interior panels and stuck into place with Velcro to allow easy removal.

Next was fixing the dash panel in place and another 'new' toy was pressed into use – the rivnut tool. This was a simple job and made a massive impression on the look of the car. Then it was onto the rear wheelarches, again using rivnuts and finished with P-trim to fill the join. The rivnuts are visible on the inside of the body – in keeping with my theme.

When planning the project, I had seen some lovely Kirkey seats, but size and budget precluded them. There are plenty of fibreglass shell type seats about but, after many hours on the internet and that special auction site, I found an alternative. After a series of emails and discussions, I placed an order and, after a short delay, a bemused courier arrived with a huge, but very light bubble wrapped parcel. This was quickly unwrapped and two aluminium seats emerged. Straight away, I mated one to a set of runners and bolted it into the driver's side. So that's brakes, electrics, engine and body done. Only one thing left: the exhaust.

Again, GKD has its own exhaust so of course I will do my own thing and commission my own... A company I found on the internet provided a set of laser cut exhaust flanges and, having done some research, I settled on IWS Developments in Colchester, Essex. I have seen some of Stuart's work on Facebook and, having spoken to him, he seemed genuinely enthusiastic about the project.

With a trailer borrowed, I loaded up the car and embarked on the two-hour



Above: Exhaust looking – and sounding – great on collection from IWS Developments.



Above: Headers being built...



Above: ...and all coming together.

drive to Stuart's workshop. Once there, dodging the suicidal chickens, I rolled the car off the trailer and drove it the longest distance so far – the 100 metres into the workshop. This gave me the reassurance the clutch was working OK and that the car was certainly 'lively' as it was trying to spin the back wheels on the gravel with only the lightest touch of the throttle.

It was difficult to leave the car and even stranger returning home to an empty garage. However, it gave me the opportunity to tidy up and sort out the garage with rubber tile flooring. Oh, and buy a Nimbus kit car, which was promptly sold to a friend. But that's another story...

After three weeks, I received a call from Stuart to say the exhaust was done – having been teased and tantalised with photos during the

process – and made my way post haste to the workshop to be reunited with the car.

Stuart was just finishing it as I arrived and I was speechless with the result. Stuart is blessed with a skill and is a master of his art. Every weld was perfect and his attention to detail was visible in every weld. Starting the car resulted in a deep burble – almost aquatic in tone. Measuring the volume showed a satisfying 98dB.

Returning home, I felt like a new dad bringing his child home for the first time and I don't think I stopped grinning like a Cheshire cat, despite negotiating the M25 and the Dartford crossing. It was a great feeling backing the car off the trailer and into the newly floored garage, the exhaust burbling away.

If anyone has any information on the Nimbus – with a Mini engine – I would

Next issue

STUART BRUCE-JONES

AGM WLR

JASON BURRAGE

DeHavilland DVT GTS

ROB DAVENHALL

Midtec Spyder

CHRIS HAYSOM

RoadRunner SR2

TOM HYLAND

Raw Striker

VIVIENNE LODGE

Westfield SE

Below: While the GKD was in the workshop...



Below: ...Ian bought a Nimbus!



Below: GKD back home.



be very appreciative of any help regards build manual, parts and hints for the build etc. The kit I rescued has no paperwork with it, no chassis numbers

and is unbuilt. It came with a Vauxhall Viva front cross-member installed and all the panels but very little else. It had sat on a driveway in Kent for several

years as a 'one day it will be started' project, but the previous owner had not done much apart from look at it and put the engine in his garage.



John Clements

PROJECT

Tiger Cat

AGE

63

OCCUPATION

Heating engineer

PROJECT START

July 2001

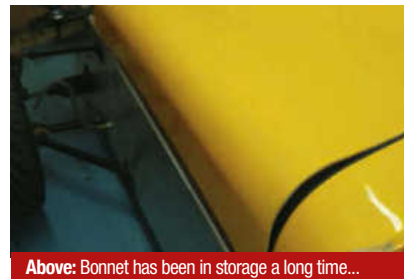
A curious thing has happened. I have become more than semi-retired, but instead of having boundless free time, I am always busier doing something other than what I want to do – finish the car.

Anyway, the brakes have been bled again, all seems OK with no horribly coloured fluid in evidence and a nice firm, but not solid, pedal feel.

One consequence of having a nice cosy garage and an equally cosy workshop 20 paces away is that whichever tool I want (if I only have one of them) is always in the other building, most especially if it's raining. And if you have your hands full, the 6ft high gate on the path between them will be closed, the fiddly catch more fiddly than ever and the wind will take it either out of your hand or into your knee.

With the additional complication of all of one son's gear, and some large lumps in store for his brother (pending snail-like progress with house purchase), there is a fair amount of pressure on space. The bonnet has survived many years and four homes simply in the original bubble wrap. So, inspired by my fellow Tiger builder in Running Reports, I thought that popping that on the car would achieve another step forward and stop everyone dancing around the darn thing, which was an accident waiting to happen.

The trumpets on the sidedraught



Above: Bonnet has been in storage a long time...



Above: ...so needs a bit of care to make it fit.

Webers had got a little surface corrosion on them, so they came off and have been polished with fine wire wool while being spun on the lathe.

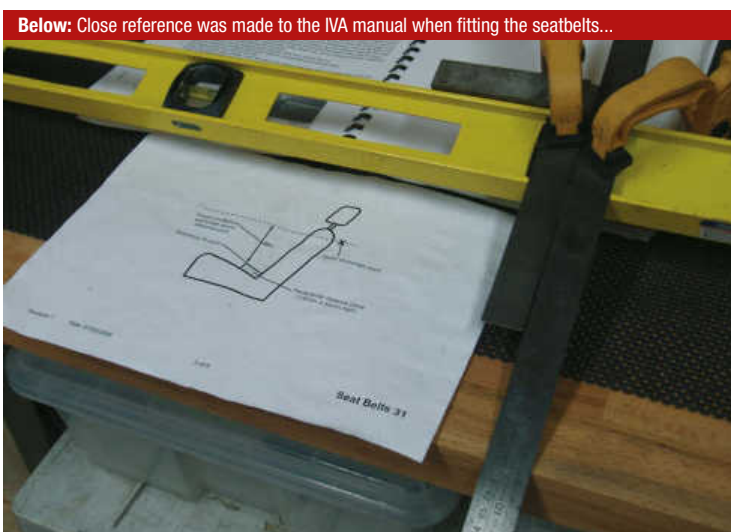
This meant the bonnet should fit as-is and I'll cut and trim the clearance for the intakes once everything has found its final position. The build manual (not always the most helpful of books...) suggests that the bonnet is fitted before the nosecone and sanded on the back edge to align the front square. A small ratchet strap should be able to pull the bonnet down onto the scuttle, and I'm in the design stage (ie still thinking about) some clips/pins/guides to locate the sides which are bowed inwards a bit too noticeably. One problem that I can see coming is that the lump of bonnet needed to be removed to clear the carbs will weaken its lower edge, but luckily the nearside starts off a bit straighter than the offside.

The nosecone is safely stored in the workshop, and will be liberated

when my younger son's delayed house move clears some of his possessions (little things like a chest freezer, ramps, trolley jack etc). However, before it gets fitted I need to resolve the wiring that it will cover.

I bought a pair of decent Intatrim seats a few years ago but have kept them stored away from the car, using the old Tiger pad type seats while the build continues. However popping those in the car freed up a bit more space elsewhere, at least for now, and my thoughts turned to the seatbelt problem.

For some reason, which is certainly unclear to me, IVA requires the upper seatbelt mounting to be at least 450mm above the front edge of a block placed on the seat base. This is very marginal in the Tiger and, having made the right sized block and a Heath Robinson style ruler clamped to a spirit level to guess the right height, I think an increase of about 15-20mm is needed. The Tiger has tubes for the shoulder



Below: Close reference was made to the IVA manual when fitting the seatbelts...



Below: Heath Robinson block of wood used to make sure seatbelt mounting is correct.

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Above: The original seatbelt mounting point needs a spacer...



Above: ...and this is the Mark 2.5 version. There might be a Mark 3 made.

strap mounting bolts welded at both ends through the substantial (2in wide) chassis rail across the rear of the car, so no real wiggle room there.

The fuel tank is very close to this rail, so welding bits on is pretty much a non-starter unless the tank is removed, but the rear bodywork was fitted after the tank, so not a practical answer.

So after a couple of false starts I have made the Mark 2.5 spacer. This is turned from 40mm diameter solid steel rod, and has a recess in its base to accommodate the protruding weld, whilst still giving strength to the added

height. The underside of the recess actually touches the top of the bolt tube and the base edge sits square on the chassis tube. The whole lot will be secured using fine threaded (1.25mm pitch) M12 bolts, rated 8.8, that are a snug fit into both the spacer and the original tubes, rather than the loose fitting (and way too short) UNF(?) bolts that came with the belts.

Interestingly (well, I think so) the Sabelt instructions (yes, I really did read them) suggest securing the shoulder belts in a production saloon to the lower rear seat seatbelt mountings.

In other words near the floor, not 450mm above some mythical point under your backside. To me, having a belt with a slight downward pull seems like a good idea. Anyway, if you can solve that dimensional mystery, send your answers on a postcard, as they always said in those far off days before t'internet.

I might try a Mark 3 spacer. I've got a lump of 50mm rod, and the extra 'footprint' may both look better and provide even more support. Now all I need is to clear a path back to the lathe. Space – the final frontier.



Jon Page

PROJECT
GBS Zero

AGE
36

OCCUPATION
Broadcast engineer

PROJECT START
April 2013

There's really very little left to complete on the car and I had wanted to get it through the IVA this year but, as with all good intentions, life takes over. I have just been asked to spend the three months to the end of the year abroad again, so I have had to divert time to house fixing-up to get it in to a state I can leave it. This means the project has had to take second place and, besides, doing the IVA now and getting it on the road around November is a little pointless for a car with no roof.

So I've not rushed anything, but I have completed the rest of the trim and carpeting, and one or two other jobs that needed doing. Carpeting the boot space is a job I have been putting off as it looked fiddly and time-consuming. I can report that it was both very fiddly, very time consuming, not to mention quite tedious and a little boring.

I sliced up pages of an old newspaper to get the shapes of the sections I needed to cut out of the carpet roll, which worked well until I was distracted by an article about lamp posts in Crawley. When I had the basic shapes of

the sections, I just needed to trim the edges to make them fit, leaving space for the inspection panel to be removed.

Having learnt the lesson from previous carpet fitting exercises, I almost emptied another full can of spray glue attaching the sections to the aluminium panels. The floor section is loose so it can be removed. With the carpeting complete, I put some thin edge trim

around the top of the boot space and secured the supports attached to the roll bar. Not the most interesting part of the build, but I am pleased with the result.

I've also put some edge trim around the cut-outs in the bonnet where the exhaust and air filter come through.

The sides of the cockpit area, next to the seats where the driver and passenger arms would rest, also needed some

Below: Newspaper templates used to cut..



Below: ...boot carpet to shape.



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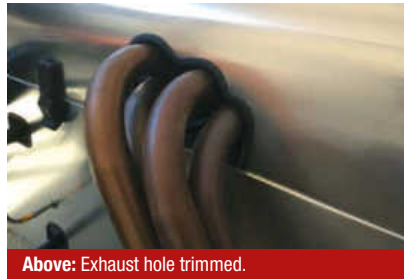
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"I sliced up pages of an old newspaper to get the shapes of the sections I needed to cut out of the carpet roll, which worked well until I was distracted by an article about lamp posts in Crawley"



Above: Exhaust hole trimmed.

trimming as the edge of the aluminium panel sit proud of the chassis. For this, I used some curved stainless steel sections from GBS. The edges needed finishing with some thin edge trim, and to avoid any ugly screws or rivets I glued them on with some polyurethane adhesive. Behind the seats at the top of the panel was another angled stainless steel bar. This needed riveting on but looks fine.

This just about signifies the end of



Above: Angled steel bar needed rivetting on.

the physical part of the build, which is a bit of a milestone. I still need to address the very rich running engine. When I get



Above: Cockpit sides also trimmed with steel.

back in January, I think I will take it to a testing place with a dyno and get it mapped correctly. Then it's the IVA...



Ed Morton

PROJECT
Nova hybrid

AGE
43

OCCUPATION
Veterinary surgeon

PROJECT START
July 2012

Apologies to anyone who was expecting a build report rather than my rambling observations last time. Sorry to say it doesn't get any better this month, either...

Once again, the Minx buggy has had to take priority at the moment, but more of that another time – after all, I don't want you or Adam our esteemed editor to think I'm taking advantage of a free advertising opportunity.

Realistically, kicking the Nova back into an on-going project probably won't happen until the buggy has an IVA. Odd bits are happening here and there, but most of the jobs involve final fitting of parts that have been trial fitted previously, so the end result doesn't look dramatically (or indeed any) different. I won't waste your time with before and after photos.

This month's distraction has been more horticultural – specifically my parent's pond, which became choked

with a particularly virulent variety of Canadian Pondweed. I'll spare you the details, but oddly enough, this project had quite a few parallels with kit car cobbling. The pondering time, the lateral thinking, the scouring of forums for information, the reconciling conflicting advice from 'experts', and perhaps even the wondering if a JCB might sort it out well and truly once and for all...

This pond is part of a far larger house renovation – and, sadly, it illustrates a potential pitfall of moderately involved undertakings all too clearly: side projects can be very distracting. The house is nowhere near finished, and yet several weekends were spent getting very muddy, cold, fed up and frustrated, and my brother-in-law Damian (who would also far rather have been playing at cars) damaged his hand and had to go to hospital. At least the tadpoles will have somewhere nice to live; it's just a shame that mum and dad haven't.

Now, some of you might be

spluttering that, surely, starting a brand new build when you're halfway through the first one sort of defines a distracting side project. And you may have a point, but, I prefer to see the Nova and the Minx buggy as stages in the same process of developing a properly resolved mid-engined VW exotic. Once it became clear that the MEV chassis hadn't worked as well as I'd hoped it would, figuring out an alternative approach was a vital sanity-saving stage. I simply could not focus on the first Nova until I'd made certain that there was a better solution. Sounds odd, maybe, but that's how my head works. It doesn't matter as much that this Nova won't be the definitive article that I planned to build, because hopefully the next one will be, and this one can still be a perfectly acceptable fair weather toy. Assuming I've got somewhere to put it, that is.

I'll try very hard to bolt something together and take pictures next time.

Unfortunately, there's not been much progress on the Enigma since the last report, but on the good side my workshop has arrived and I'm now in the process of fitting it out. With any luck that should be completed fairly soon and the Enigma can then come home.

I've also completed a track day at Brands Hatch in the Zero, and the standard Ford Zetec bottom end performed flawlessly even with 300bhp. This is good news as Zetec engines are cheap and plentiful.

At the moment, I'm suffering with a bad back which has put a bit of a dampener on any hobby work, but hopefully it won't be too long before I'm working on the Enigma again.



Andy Green

PROJECT
Healy Enigma

AGE
48

OCCUPATION
Mechanic

PROJECT START
March 2014

Below: Side projects can be distracting, and right now the buggy is receiving more attention than the Nova.



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Gift Ideas For Christmas

Carbon steering wheel

This could be this year's ultimate Christmas present for the person who loves carbon detailing on their car. Rally Design has just released a range of steering wheels constructed completely in natural carbon. The rims can be left bare or covered in leather or suede. Not only are the new wheels (available in both 350mm and 320mm diameters) strong but they are also ultra light (just 600g in the case of the larger 350mm wheel).

Price: From £175.50 inclusive VAT.
W: www.rallydesign.co.uk



Build your own V8

Haynes has previously offered a DIY 4-cylinder model for home construction and now you can put together your own V8 engine, with moving parts, illuminating spark plugs and even a V8 soundtrack (available via Halfords). Nope, it's not a real engine, but it's still pretty cool!

Price: £40 inclusive VAT.
W: www.halfords.com



Cobra on Cobra

Cobra Seats has just released a brand new bucket seat, fully licensed to carry the iconic Shelby Cobra emblem. Perhaps such endorsement should not be a surprise, when you learn that the grandfather of current Cobra Seats MD, Mark Dunsford, used to hand finish the seats for the original AC Cobra! The newest addition to the company's range is available in either vinyl or leather faced options.

Price: From £330 inclusive VAT.
Contact: W: www.cobraseats.com



Ultimate fixing

Pro-Bolt can offer the ultimate in fixings with its latest titanium DualDrive bolt! Available in a selection of different colour finishes, the DualDrive design means both a conventional socket or Allen key can be used for fastening. The head is also pre-drilled to facilitate lockwiring. Of course, the other key feature is the titanium construction, being both extremely strong and super light. Sold as single items, these are not cheap and are designed for race teams, but they look fantastic! The perfect present for the kit car owner who has everything.

Price: From £6 inclusive VAT.
W: www.pro-bolt.com



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A present every would-be kit car builder can make use of. Machine Mart has a vast range of Clarke tool cabinets and chests, which can often be combined, as shown here. The smaller chest (CBB209B) could be sat on a worksurface or placed on top of the wheeled cabinet (CBB217B) to complete a significant structure that should cope with most amateurs' tool collections. Sturdily made and with ball bearing sliding drawers with anti slip mats, all Clarke storage units should last for years.

Price: CBB209B £143.98/CBB217B £299.98 both inclusive VAT.
W: www.machinemart.co.uk



Multi-function ratchet

This is a cunning tool (56101) and another potentially popular pressie! Kamasa has just released this ratchet with has the innovative feature of offering all popular drive bit sizes... 1/2in, 3/8in and 1/4in. This is achieved via interchangeable heads, with a fourth head allowing the use of any drive bits (of which a basic set is included with the tool).

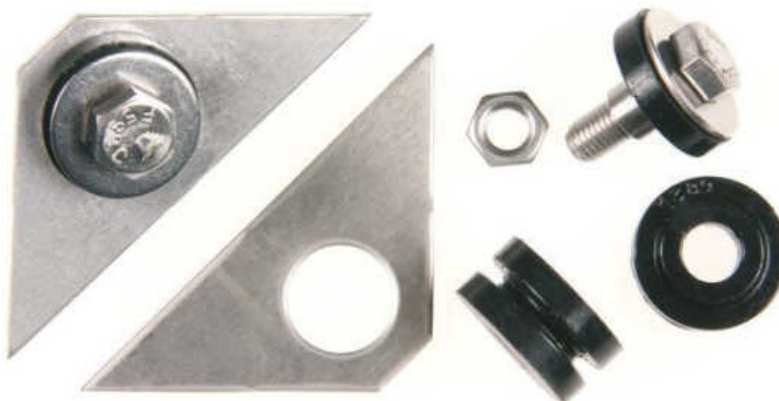
Price: £40.68 inclusive VAT.
W: www.kamasa.co.uk



Insulated mounting

Poly bush specialist, Superflex, has just launched this new lug and bush kit aimed at providing an insulated mounting point for radiators, tanks, electronics and anything that you want insulated from excessive vibration. The lug can be supplied in aluminium, stainless or mild steel, or you can opt to mount the bush into your own bracket.

Price: £tbc.
W: www.superflex.co.uk



Solvent cleaner

Trim expert Woolies can offer this can of solvent cleaner. If you are planning a retrim for your car this winter, then a can of this could come in handy. It's said to deal brilliantly with removing excess adhesive, oil or grease off a variety of surfaces including carpets, fabrics and trim. It's also apparently very good at cleaning old Cellotape marks and adhesive off glass, metal and plastic surfaces.

Price: £8 inclusive VAT.
Contact: W: www.woolies-trim.co.uk



Micro filming quadcopter

The Quadcopter Spot is a palm-size drone which includes a digital micro camera and 2gb micro SD card. It'll fly indoors or out and could be a great starting point for getting some amazing footage of you and your car in action!

Price: £38.57 inclusive VAT.
Contact: Search online, but price above is from www.amazon.co.uk



Turbocharging

Who isn't seduced by the thought of more power? Could turbocharging be the answer? Chris Pickering explores the options.



Back in the '80s, you could get a poster of a generic supercar. It was red and stereotypically Italian – all broad haunches and dramatic creases, somewhere between a Ferrari F40 and a Lamborghini Countach. But almost as important to a whole generation of budding car fans was the single word scrawled across the top in jagged red lettering: Turbo.

Pretty soon you could get turbo razors, turbo hairdryers, even turbo straighteners. It became a byword for anything with that little bit more *va va voom*. In the automotive world, turbos have now become commonplace on everything from city cars to bin lorries. And they're an increasingly common sight on kit cars.

The idea behind turbocharging is very simple. A turbine driven by the exhaust gas is connected to a compressor, which squeezes more air into cylinders; more air means more fuel, which in turn means more power.

It's more than just a glorified windmill, though. The burnt gas exits the cylinders at a very high temperature

and pressure, which means it continues to expand rapidly as it meets the cool and relatively open environment of the exhaust. This expansion can almost be thought of as a continuation of the engine's own power stroke – except

here, the energy of the gas is used to spin the turbine blades as it expands rather than pushing down on the piston. It sounds too good to be true, but it's as close to free power as you're ever going to get.

Below: The SDR V-Storm uses the Subaru Impreza as a donor, which comes ready-turbocharged.



There are practical drawbacks to using a turbo, but they're generally pretty easy to mitigate. For a start, you've got to find somewhere to put it. The closer to the cylinder you can place the turbine, the more energy will remain in the exhaust gas. Generally, cutting down the distance between the engine and the turbo also helps to improve response times.

With the turbocharger shaft spinning at up to 250,000rpm, lubrication is vital. Every turbo needs an oil supply and a drain – usually taken from the car's existing oil system. The flow of oil also provides some much-needed cooling, although it's common to supplement this with an additional waterjacket. Again, this requires a supply pipe and a drain – either on their own circuit or integrated into the existing cooling system.

Hot spots around the turbo and the exhaust can lead to heat issues, particularly if they're in close proximity to fibreglass bodywork. Heat shields, foil wraps and thermal barrier coatings can all be used to control these

"Turbocharging is very simple. A turbine driven by the exhaust gas is connected to a compressor, which squeezes more air into cylinders; more air means more fuel, which in turn means more power"

localised issues, but the engine as a whole will produce more heat, which often requires an uprated cooling system compared to a naturally aspirated installation.

You also need to keep the charge cool. Heat transfer from the exhaust and the simple act of compressing the air raises its temperature, so most turbocharger installations run the air through an intercooler on its way into the engine. The simplest solution is an air-to-air intercooler, where the intake air is cooled by airflow over the core. This can result in quite a long network of piping, which again increases the response time, so instead some cars use an air-to-water intercooler. Here the heat is initially transferred to a water circuit, where it flows round to a remote radiator. This is typically heavier than an air-to-air type, but it cuts down on the length of the air path.

SCOOBY DOES IT

The Subaru Impreza provides a plentiful source of powerful, reliable and well-supported turbo engines.

A number of kits have tapped into this rich vein over the years, including the Adrenaline Murtaya and the DJC V-Storm, which scooped CKC's Car Of The Year back in 2010.

Using a turbocharged donor does make things a lot simpler, but it's not always as easy as lifting the complete powertrain out of one chassis and dropping it into another.

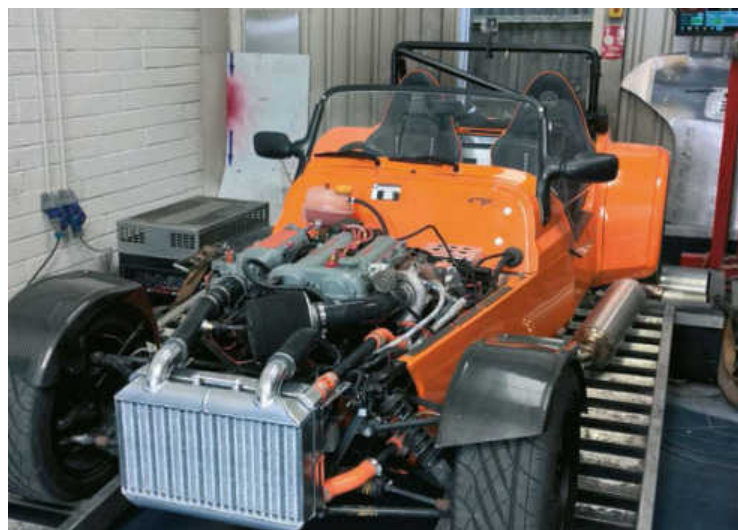
"If you take the engine out of the front of an Impreza and put it in the back of a kit car everything changes," comments Jason MacDonald, director of Subaru tuning specialist and V-Storm distributor Scooby Bits. "We found the biggest difference with the V-Storm [compared to the donor Subaru] was the volume of water in the cooling system. Removing the heater matrix and using a different pipe routing got rid of nearly 2 litres and you can't expect a standard water pump to work efficiently with less water. One customer reinstated a heater matrix of sorts within the airflow, to restore that volume and provide some additional cooling capacity. Our approach is to use

Below: Scoobybits is well-versed in the Impreza engine; it has good aftermarket support.





Above: Dom Osman has turbocharged the Mazda MX-5 engine in his Westfield.



Above: Running on standard internals, it showed 230bhp on the rolling road.

Useful contacts

Subaru specialist: Scooby Bits, Truro, Cornwall. T: 01872 561687.

E: info@scoobybits.co.uk W: www.scoobybits.co.uk

MX-5 tuning: Flyin' Miata, Colorado, USA. T: +1 970 464 5600.

E: sales@flyinmiata.com W: www.flyinmiata.com

Radiators: Radtec, Cannock, Staffordshire. T: 01543 502525.

E: kl@radtec.co.uk W: www.radtec.co.uk

MX-5 mapping: Skuzzle Motorsport, Winchester, Hampshire. T: 01962 776167.

E: nick@skuzzle.com W: www.skuzzle.com

Off-the-shelf turbos: Garrett. W: www.turbobygarrett.com

ECUs: MBE Systems, Cirencester, Gloucestershire. T: 01285 883030.

W: www.mbesystems.com

Fabrication: G19 Engineering, Ipswich, Suffolk. T: 01473 784679.

E: doug@g19engineering.co.uk W: www.g19engineering.co.uk

Mapping: RLM Racing, Oakham, Rutland. T: 01572 868410.

E: info@rlmracing.com W: www.rlmracing.com

V-Storm: DJC Kit Cars, South Woodham Ferrers, Essex. T: 01245 324405.

E: dan@djckitcars.co.uk W: www.djckitcars.co.uk

MNR: MNR Sports Cars, Harrogate, North Yorkshire. T: 01423 780196.

E: mnrspcars@btinternet.com W: www.mnrtd.co.uk

Westfield: Westfield Sportscars, Kingswinford, West Midlands. T: 01384 400077.

E: simon.westwood@westfield-sportscars.co.uk

W: www.westfield-sportscars.co.uk

a large header tank from OBP. It also helps to use a low-range thermostat that will open earlier."

There's a multitude of different engine and turbo options within the Impreza back catalogue. The Mitsubishi TD04 family, used in most of the WRX models, is a popular

choice, as is the IHI VF range of roller bearing turbos from the WRX STi. The original front-mounted intercooler doesn't fit on the V-Storm so a custom item is used, along with various other bits including an elongated 'up pipe' between the exhaust manifold and the turbo.

It's a common misconception that forced induction engines aren't that critical on exhaust design, but Jason says he's seen as much as a 20 per cent power increase simply from fitting an optimised exhaust system.

Airflow through the intake is also crucial, he explains: "The more cold air you can get in and the better your induction routing, the more power you're going to get. You need to think about where you're going to put the air filter and try and keep the routing as short and as smooth as possible with a minimal number of joints – the Subaru engine in particular is very sensitive to air leaks. It pays to use decent quality components too. We've seen cheap aftermarket hoses and intercoolers practically suck themselves flat on the dyno."

It is possible to get the engine to run on the standard management system, but it's a big compromise, he says: "There's no substitute for live mapping – you can get two cars on the same hardware that are chalk and cheese to drive. Using the standard ECU can also be a false economy – adapting a production car loom to work on a kit car can be a nightmare, particularly with modern immobilisers. When you factor in the man-hours, you're usually better off biting the bullet and going straight for an aftermarket ECU."

MAXIMUM MAZDA

If you're feeling a little more adventurous, you could always engineer your own turbo installation on a naturally aspirated base engine. That's exactly what Dom Osman did on his Mazda MX-5 based Westfield.

Having initially contemplated supercharging or naturally aspirated tuning, a turbo conversion from US-based MX-5 specialist and Westfield importer Flyin' Miata caught his eye. Unfortunately, the factory-made

Below: Trial fit of the turbo in the MX-5 based Westfield. There's just about space for it!



Below: Plumbing for the intercooler in the Westfield's Mazda MX-5 installation.





Above: Eddie Coxon added a turbocharger to the Suzuki Hayabusa engine in his MNR VortX.



Above: The MNR in action at Donington Park.

Mazdaspeed exhaust manifold proved hard to source in this country and Dom had his doubts as to whether the other off-the-shelf options would fit. Instead, he got in touch with a Slovakian fabricator, through one of the MX-5 forums, who had worked on Seven-type cars before and suggested mounting the turbo above the exhaust manifold. After a few emails back and forth with the dimensions, Dom's new contact started work on the manifold... 1200 miles away!

A short while later the custom manifold arrived on his doorstep, along with a downpipe, turbo actuator, coolant lines and oil pipes. A quick trial fit confirmed that the downpipe now lined up perfectly with the existing hole in the bonnet, so all that was needed to complete the exhaust was a connecting pipe, which Dom commissioned from a local fabricator.

People have been turbocharging MX-5s for almost as long as there have been MX-5s and the Subaru-sourced TD04L-13T turbocharger that Dom used is a common mod. Mazda originally developed the engine with forced induction in mind and early versions actually come with a

turbocharger oil feed that's blocked off in production. This had been discontinued by the time Dom's engine left the factory in 1996, so instead he's fitted a T-piece near the oil pressure sender, which takes a feed round the back of the engine and into the turbo. Meanwhile the water feed for the turbo comes from the existing thermostat bypass circuit.

In place of the Volkswagen Polo radiator originally fitted to the car Dom bought a combined radiator and intercooler unit from RadTec. This is an off-the-shelf unit designed specifically for Westfield turbo conversions. At just over £800, it accounted for nearly half the cost of the total conversion, but it's turned out to be worth every penny.

"It hurt when I ordered it, but the radiator-intercooler package is the best thing I've bought," he says. "I did a track day on a very hot day in July and the intake temperature was maximum 37deg and the coolant temperatures were rock solid."

It is possible to retain the standard ECU and injectors (with an auxiliary fuel pressure regulator or a piggyback ECU), but to get the most out of the turbo conversion both needed to be changed. In-keeping with the DIY philosophy, Dom fitted high flow fuel injectors from an RX-8. These are the right size and impedance for the MX-5 engine as standard. Meanwhile, a MegaSquirt ECU, mapped on the rolling road by Skuzzle Motorsport, provides the engine management.

Running on totally standard internals the 1.8-litre engine now produces a very tractable 230bhp at the rear wheels with 0.75 bar boost. That equates to about 260bhp at the crank – not bad for an £80 turbo and a total conversion cost somewhere in the region of £1700. Dom estimates the additional weight is 15 to 20kg,

which he says can be felt on turn-in on track days, but it should be possible to claw this back elsewhere.

Perhaps most impressively, the whole thing was done at home by someone with no formal engineering training. "At no point in the project did I feel like I'd bitten off more than I could chew," says Dom. "The most

Supercharging

Superchargers work on the same principle as turbochargers. The key difference is that the compressor is driven mechanically from the crankshaft. As a result, the initial response is almost instantaneous, even though the outright boost pressure generated by the supercharger is still proportional to engine speed.

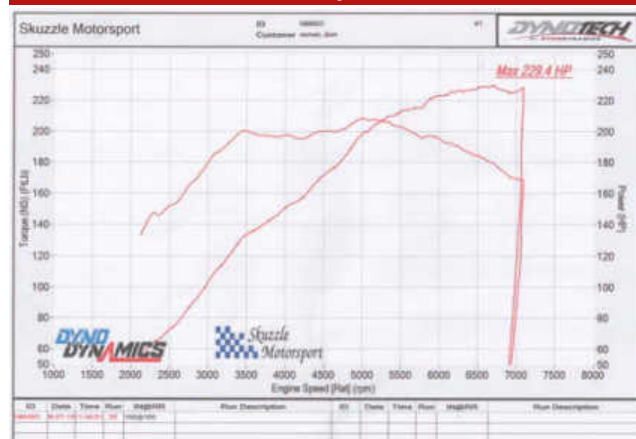
Eliminating turbo lag is the key benefit of supercharging. Advances in turbocharger design over the last few years mean that the difference is nothing like as pronounced as it once was, but supercharged engines still tend to have noticeably better response.

The disadvantages are substantially higher mechanical and thermodynamic losses. In a Top Fuel dragster it can take 800bhp just to spin the supercharger. And no, that's not a misprint.

From a kit car perspective, a lot of it comes down to packaging and the availability of donor parts. The Eaton M45 supercharger from the first BMW-era Mini Cooper S is a popular and relatively affordable choice, while companies like Rotrex can supply other options off the shelf. Turbochargers sometimes offer a bit more flexibility in mounting locations, but it's really a question of whether you've got more space around the crank pulley or the exhaust manifold. GKD offers a kit to fit the Mini supercharger to the 1.9-litre BMW engine, which is what's fitted to the Legend featured elsewhere in this issue.



Below: Print-out from Dom Osmon's rolling road run.





Above: Not much to see on this side of the installation, but on the other side...



Above: ...the turbo is mounted externally to get around the lack of space.

nerve-wracking bit was drilling the sump. I measured and measured again – I didn't want it below the oil line, but I didn't want it too high to hit the crank or anything like that. I made a hole with a handheld electric drill, tapped it to the half-inch BS fitting that came with the turbo kit and put a bit of oil-resistant thread lock in there."

The performance gains have transformed the car with little in the way of lag or other downsides Dom explains, but he does have one regret: "The only thing I don't like about it is the noise. It was 98dB previously (running on throttle bodies), but with the turbocharger it's down to 89dB."

BIKE BOOST

If a 260bhp Mazda-powered Westfield

sounds a bit tame to you, then look no further than Eddie Coxon's 1340cc Suzuki Hayabusa turbo powered MNR VortX. Running on high quality forged internals with a Garrett GT28/76R turbo and an MBE 9A9 ECU, it produces more than 450bhp at the crank.

"With the stock Hayabusa engine and a 3.14 diff, the car just didn't scare me the way I hoped it would, so after about six months I decided to go down the forced induction route," he recalls. "The principle reason for choosing a turbo over a supercharger was that I wanted switchable boost levels – both to vary the power output for different settings and so I could set individual boosts limits for different gears to aid traction."

There isn't a huge amount of space under the MNR's bonnet, so Eddie came up with an eye-catching

solution for the turbo packaging – he fitted it externally. This also helps with cooling, although the GT28 has a waterjacket connected to the car's main cooling circuit.

He bought a custom manifold kit from the US, consisting of a set of flanges and elbows, and tack welded the required shape together at home before sending it to fabricators G19 Engineering for professional TIG welding. The same company was responsible for the turbo downpipe and the intake plenum, which Eddie mocked up in cardboard and sent over to Suffolk for fabrication.

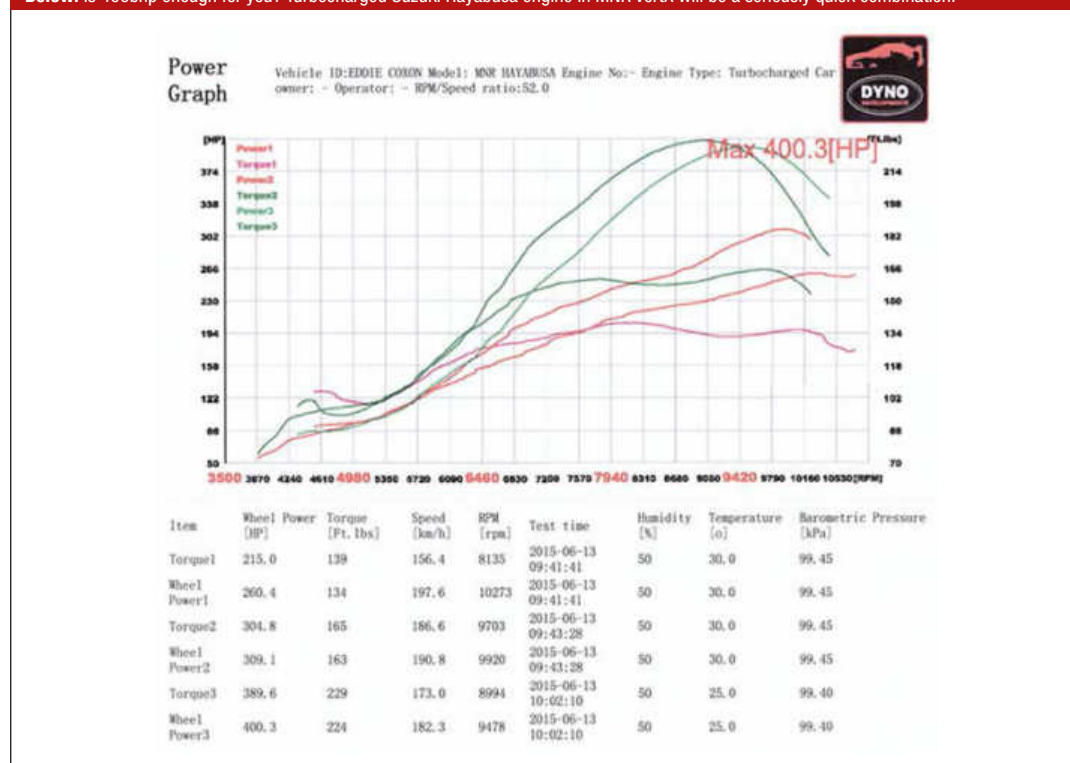
"The hardest part was trying to do these things remotely," he admits. "If I did it again, I'd take the car to a fabricator and get the exhaust and the manifold made up on-site."

At 690cc, the injectors in Eddie's MNR are more than twice the size of the stock items. The gearbox internals have also been beefed up to cope with the additional power and torque. For the record, the lowest of the three settings makes 260bhp and 134lb ft of torque at the wheels at 0.6bar; in the intermediate setting it makes 309bhp and 165lb ft at 0.9bar; if you're brave enough the final setting will see 400bhp and 224lb ft at 1.3bar.

"Anything more than low boost on the road is too fast. On track days it's fine on sticky road tyres, however I do want to try running it on slicks next year," comments Eddie. "There's absolutely no discernible lag, it feels like a naturally aspirated engine, just with a lot more low down torque. Even on the lowest boost setting you can feel the difference from about 2000rpm. The power delivery is really smooth and predictable thanks to the mapping carried out by RLM Racing."

So has that provided the desired fear factor? "It's too fast for me, for now," comments Eddie. "It's great," he adds with a grin. ■

Below: Is 400bhp enough for you? Turbocharged Suzuki Hayabusa engine in MNR VortX will be a seriously quick combination.



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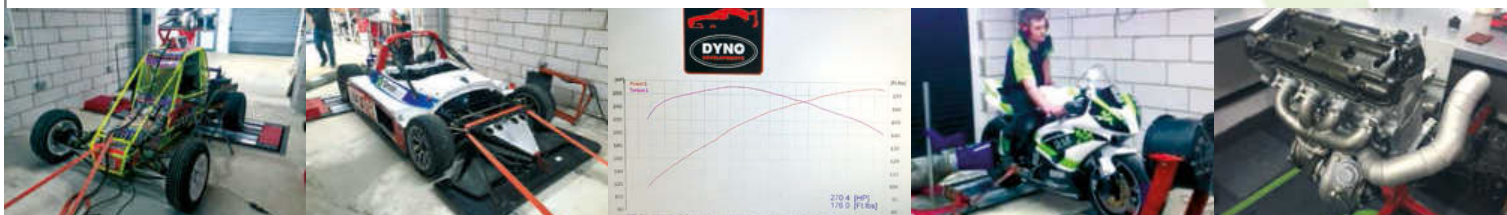
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Between The Lines

A home for everything
that didn't make it into the
main part of the mag.

Money-saving tips

If the old adage that a penny saved is a penny earned is true, we were on about £1248 per hour on a five-minute phone call to the AA the other day. The renewal for editor Wilkins' breakdown cover came through, saying that it would automatically renew for £240. That seemed a bit steep, and after a brief phone call they reduced the

charge by a staggering £104 for exactly the same cover.

Oddly, they thought that Wilkins would be delighted by the reduction. He'd have preferred it if they'd just given him the best price in the first place, so cancelled his membership. The RAC offers almost the same level of cover for £129.99...



Yes, that really is an engine



Little bigger than a briefcase, the largest of these three British-designed rotary engines could be powering the next generation of cars from a well-known kit car manufacturer. We'll bring you more news on this next month, but it's extremely exciting to see a UK manufacturer

so actively pursuing its future market with positive and exciting innovations. As for the engines themselves, the technology is impressive and the smallest seen here is little bigger than your hand and designed to re-charge batteries in electric powered cars and boats. Very cool.

A few left-overs from our replica wannabes

It was fun compiling our lists of the replicas we'd like to see for this issue's Top 10, although even we must concede that many of them would stand little chance of commercial success. Is there really a queue of people waiting to build a CD Peugeot lookalike?

Here are a few pics that didn't make it into the Top 10 feature itself...



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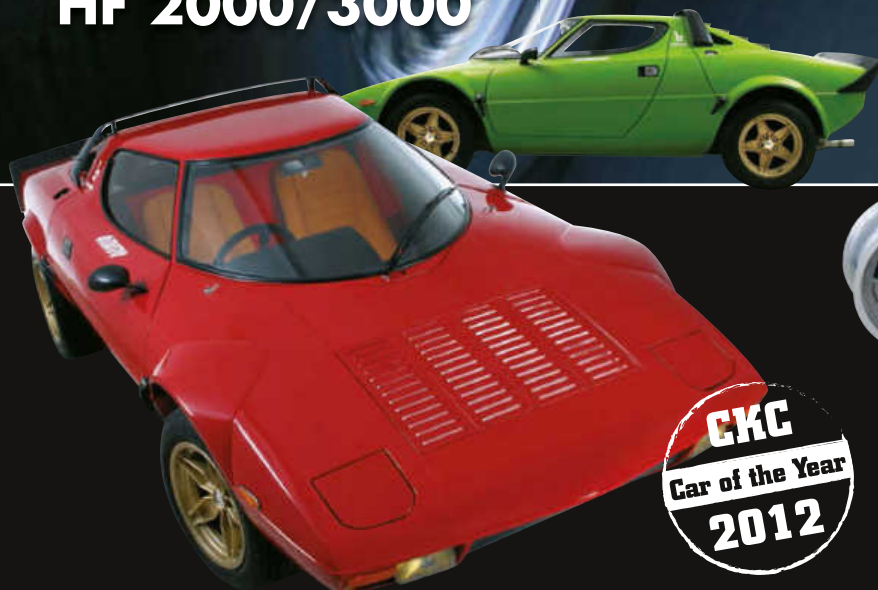
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